

A DEMOGRAPHIC SURVEY AND COMPARISON OF PERSONS SEEKING  
EMPLOYMENT ASSISTANCE THROUGH THE JOB SERVICE  
NETWORK IN THE STATE OF IOWA, 1970-1982

---

A Dissertation  
Presented to  
The School of Graduate Studies  
Drake University

---

In Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

---

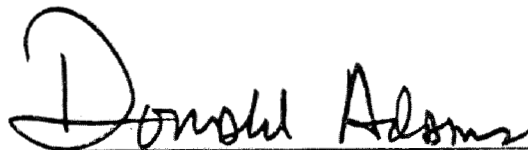
by  
Dennis Richard Dixon  
September 1983

A DEMOGRAPHIC SURVEY AND COMPARISON OF PERSONS SEEKING  
EMPLOYMENT ASSISTANCE THROUGH THE JOB SERVICE  
NETWORK IN THE STATE OF IOWA, 1970-1982

by

Dennis Richard Dixon

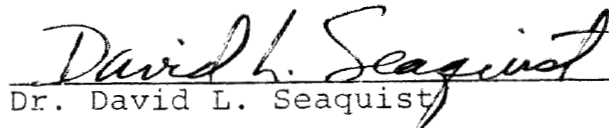
Approved by Committee:



Dr. Donald V. Adams, Chair



Dr. R. Dean Wright



Dr. David L. Seaquist



Dr. Earle L. Canfield  
Dean of the School of Graduate Studies

A DEMOGRAPHIC SURVEY AND COMPARISON OF PERSONS SEEKING  
EMPLOYMENT ASSISTANCE THROUGH THE JOB SERVICE  
NETWORK IN THE STATE OF IOWA, 1970-1982

An abstract of a Dissertation by  
Dennis Richard Dixon  
September 1983  
Drake University  
Advisor: Dr. Donald V. Adams

The problem. The purpose of this study was to examine any changes in the characteristics of persons seeking new employment opportunities in the state of Iowa. The study included all persons who applied for job-referral assistance at a Job Service of Iowa office during the first quarter of the fiscal years 1970, 1975 and 1978 through 1982.

Procedure. Data for the study were obtained from computerized records compiled by Job Service on all applicants during the above periods. The information was gathered by Job Service interviewers, on a standardized interview form, for each client at the time of application for services.

Characteristics of age, race, sex, current work status and occupational preference were tabulated. Contingency tests were performed to determine whether significant changes in the frequency of the variables had occurred during the period covered by the study.

Findings. Six null hypotheses were tested for significance at the .01 level and all were rejected when significant changes were demonstrated in the proportion of: (1) male/female applicants, (2) male/female applicants within all nine occupational preference categories, (3) applicants who were employed full-time, part-time or unemployed within all nine of the occupational preference categories, (4) White, Black, Spanish-speaking, American Indian and "other" minority groups within eight of the nine occupational preference categories, (5) person's age: twenty-two or less, twenty-three to forty-four, forty-five to sixty-four and sixty-five and over within all nine occupational preference categories, and finally, (6) the total number of persons seeking assistance through Job Service.

Conclusions. The study found that since 1970 there have been significant changes in the characteristics of Iowa job seekers, and that several trends which peaked toward the late 1970's began to decline by the early 1980's. The study concludes by suggesting interpretations which might be drawn from these findings.

## Table of Contents

	Page
List of Tables . . . . .	v
Chapter	
1. Introduction . . . . .	1
Mid-Life Career Changes . . . . .	2
Rationale for the Study . . . . .	4
Statement of the Problem . . . . .	10
Significance of the Study . . . . .	10
Null Hypotheses . . . . .	11
Limitations of the Study . . . . .	13
Definition of Terms . . . . .	15
2. Review of Literature . . . . .	23
Introduction . . . . .	23
Vocational Guidance: A Historical Perspective . . . . .	24
Occupational Choice/Career Development and the Adult . . . . .	28
The Changing Workforce . . . . .	38
Iowa, Its People, Its Workforce . . . . .	57
Implications of Workforce Change for the Vocational Counselor . . . . .	70
Summary . . . . .	87
3. Research Design and Methodology . . . . .	89
General Design . . . . .	89
Population and Sample . . . . .	90



Chapter	Page
Procedure for Identifying Sample . . . . .	92
Data and Instrumentation . . . . .	92
Analysis of the Data . . . . .	95
4. Findings . . . . .	96
Summary of Findings . . . . .	147
5. Summary, Discussion, and Conclusions . . . . .	149
Summary . . . . .	149
Discussion . . . . .	155
Conclusions . . . . .	164
Implications and Limitations of Study . . . . .	165
Bibliography . . . . .	168
Appendix . . . . .	174

## Tables

Table	Page
1. Job Service of Iowa Referrals, 1970 through 1982, by Sex of Client . . . . .	98
2. Percentage Changes in Occupational Category Selection, by Sex, 1978 through 1982 . . . . .	102
3. Frequency and Percentage of Male and Female Applicants by Occupation, First Quarter of Fiscal Years, 1978-1982 . . . . .	104
4. Number of Job Applicants by Work Status . . .	112
5. Work Status at Time of Application, 1978- 1980 . . . . .	113
6. Number and Percentage of Applicants by Race, 1978-1982 . . . . .	118
7. Applicants for Professional/Technical/ Managerial Jobs by Race, First Quarter of the Fiscal Year 1978-1982 . . . . .	120
8. Applicants for Clerical and Sales Jobs by Race, First Quarter of the Fiscal Year 1978-1982 . . . . .	121
9. Applicants for Agricultural, Fishery, Forestry and Related Occupations by Race, First Quarter of the Fiscal Year 1978- 1982 . . . . .	123
10. Applicants for Service Jobs by Race, First Quarter of the Fiscal Year 1978-1982 . . . .	124
11. Applicants for Processing Jobs by Race, First Quarter of the Fiscal Year 1978- 1982 . . . . .	126
12. Applicants for Machine Trade Jobs by Race, First Quarter of the Fiscal Year, 1978- 1982 . . . . .	128
13. Applicants for Benchwork Jobs by Race, First Quarter of the Fiscal Year, 1978-1982 . . .	129

Table	Page
14. Applicants for Structural Jobs by Race, First Quarter of the Fiscal Year, 1978- 1982 . . . . .	131
15. Applicants for Miscellaneous Jobs by Race, First Quarter of the Fiscal Year, 1978- 1982 . . . . .	133
16. Frequency and Percentage Totals for Applicants by Age, 1970-1982 . . . . .	136
17. Frequency and Percentage of Occupational Preference, Age Twenty-Two or Less, 1978-1982 . . . . .	139
18. Frequency and Percentage of Occupational Preference, Age Twenty-Three to Forty- Four, 1978-1982 . . . . .	140
19. Frequency and Percentage of Occupational Preference, Age Forty-Five to Sixty-Four, 1978-1982 . . . . .	141
20. Frequency and Percentage of Occupational Preference, Age Sixty-Five and Over, 1978-1982 . . . . .	142
21. Frequency and Percentage Change 1978 Versus 1982, by Area of Occupational Choice . . . . .	145

## CHAPTER ONE

### Introduction

Work is the activity that consumes the single greatest number of a person's waking hours. It significantly influences personal development and change in the identity of "self" through the stages of life. It is generally agreed that an individual's work represents one of the most significant aspects of his/her self-esteem.

In American culture, when an individual is experiencing difficulty in one or more areas of personal development due to a lack of employment or unsatisfactory employment, that person generally, or at least hopefully, seeks help. While this aid may include efforts by a professional to assist the person to achieve a more positive self-image, it is usually quite pragmatic in nature and is designed primarily to help the person find employment.

A government-funded employment service may represent the "front line" in matching people with jobs. Statistical information obtained from such an employment source should be generalizable to the majority of individuals seeking help with employment or career improvement.

While it may be possible to make certain generalizations about people seeking employment or career change,

it is equally important to realize that there are also major differences. Individuals seeking employment change for advancement, monetary gain, increased responsibility/prestige/recognition, or new stimulation/prestige/challenge, may have different self-concepts than persons who are either currently unemployed or who are soon to be unemployed by circumstance rather than choice.

It is reasonable to assume that these two basic groups may differ in terms of their general attitude, their willingness to explore a variety of options, the perceived immediacy of their problem, their personal financial stability at the time of contact, and a variety of other situationally oriented differences. However, what is not known is whether these individuals may differ according to demographically defined categories. If so, in what ways do they differ? Are there in fact recognizable categories of individuals seeking help? If there are, have these categories changed over time?

#### Mid-Life Career Changes

In the March, 1979, issue of The Vocational Guidance Quarterly, L. Eugene Thomas observed that far more males were seeking career change than in the past, and suggested that the reasons for this trend toward mid-life "repotting" could involve such considerations as "increased affluence,

and a rapidly changing world of work."<sup>1</sup> Thomas further speculated that, in effect, "These changes in the larger society lower the barriers that constrain an individual to remain in one career from first job to retirement."<sup>2</sup> If Thomas is correct, then it seems logical that there may be, for example, a recognizable category of individuals (males in this case) seeking career change in mid-life and that this category is in fact changing. This category appears to be growing for reasons which are societal as well as individual.

Brim, in his work on mid-life crisis, observed that:

There are hundreds of investigations which substantiate personality change in adulthood, in reactions to situations, in attitudes, in reference groups, in self-descriptive items, in sources of gratification, in dyadic relationships, in the objective descriptions by friends, and on psychological tests.<sup>3</sup>

Given the increased professional awareness of adult personality change, it is to be expected that new approaches to career guidance for adults would be developed. In his article, "Emerging Models of Career Development Groups for Persons at Midlife," Duane Brown pointed to the great amount

---

<sup>1</sup>L. Eugene Thomas, "Why Study Mid-Life Career Change?" The Vocational Guidance Quarterly, 24, No. 1 (1975), 38.

<sup>2</sup>Thomas, p. 38.

<sup>3</sup>Orville G. Brim, Jr., "Theories of the Male Mid-Life Crisis," Counseling Psychologist, 6, No. 1 (1976), 3.

of attention now being paid to career guidance for adults at midlife. He stated that:

The emphasis on midlife [sic] career change has undoubtedly grown out of a number of factors, including the women's struggle for equal rights and a growing concern for helping women make the transition from housewife to worker and from underemployed worker to fully employed wage earner.<sup>1</sup>

This study was designed to examine changes in the labor market supply which have been described by Thomas, Brim, Brown and many others in the literature. Are these changes present throughout the American society, or are they predominately evolving in the large metropolitan areas? Are these issues relevant to the career counselor in the state of Iowa? If so, what are the changes and what ramifications do they have for the counselor working with women, youth, the aged, members of minority groups, mid-life career changers, etc.?

The purpose of this project focused upon the demographics of those seeking employment assistance through the Job Service offices throughout the state of Iowa in order to attempt to clarify these issues.

#### Rationale for the Study

The American workforce has undergone dramatic change during the past century. Current vocational counseling

---

<sup>1</sup>Duane Brown, "Emerging Models of Career Development for Persons at Midlife," The Vocational Guidance Quarterly, 29, No. 4 (1981), 332.

literature is replete with theories concerning the needs of career changers and the ramifications of career change. For example, it is widely accepted that the counseling requirements of young persons starting out in the job market are quite different from those of older individuals who are seeking a job or career change.

Counseling older persons seems to be conducted without use of normative instruments or with tools that relate to very specific activities such as leisure time. As counselors become increasingly aware of the need to help persons over a total career lifespan, the need for validated<sup>1</sup> instruments and procedures is apparent.

It is assumed that there are also obvious differences between the needs of individuals who are employed and seeking a job change for reasons of stimulation, prestige, monetary increase or career advancement, and those who are unemployed and forced to find new employment opportunities. Krausz argued:

It is to be expected that persons at different life stages differ with regard to expectations from their work roles and in preferences for work-related values. Examples of situations in which such differences reveal themselves are when a person has to choose a job or to select an organization as a workplace. Today these situations are not limited to career starters; both

---

<sup>1</sup>James D. Wiggins, "Holland's Theory and Retired Teachers," The Vocational Guidance Quarterly, 30, No. 3 (1982), 236.



job change and career redirection are prevalent even at later stages of adult life.<sup>1</sup>

Women, minority group members and persons with physical or mentally disabling conditions may also need unique assistance to combat discrimination in the job market. In 1982 Jean Wilson, William J. Werkel and Harold Rose compared nontraditional and traditional career women. In comparing a group of female teachers (representing the traditional group) with a group of females in executive or managerial positions (representing the nontraditional group), the authors found little difference between the groups in terms of family of origin, environments, general reasons for working, number of children, similar problems with role conflict, marital status or birth date. However, significant differences were found between the groups in several areas. The authors concluded:

Results indicate that most of the nontraditional group chose their career after marriage, thus supporting the need to emphasize awareness of nontraditional careers for females in elementary school, high school, and college. Resource women such as those in the study, who have been successful in nontraditional careers, can serve as role models for females to increase this awareness.<sup>2</sup>

---

<sup>1</sup>Moshe Krausz, "Policies of Organizational Choice at Different Vocational Life Stages," The Vocational Guidance Quarterly, 29, No. 4 (1981), 340.

<sup>2</sup>Jean Wilson, William J. Werkel and Harold Rose. "A Comparison of Nontraditional and Traditional Career Women," The Vocational Guidance Quarterly, 30, No. 6 (1982), 116.

In his 1981 article, "Midlife Career Change for Blacks: Problems and Issues," Leroy Miles focuses upon the extent to which Blacks in mid-life are able to pursue their careers in an upward fashion leading to positions of higher rewards and challenges. Miles documents previous research which has demonstrated that Blacks at mid-life face additional obstacles due to a lack of education, overt discrimination, and traditionally limited opportunities for entrance into occupations which offer high salaries and levels of satisfaction.

Miles also uncovered evidence that the methods of seeking employment also differ between Blacks, who tend to use public employment agencies, and Whites, who more often use private agencies. This is significant because other researchers have demonstrated that a higher percentage of jobs offered through private agencies are of the white collar variety.<sup>1</sup> In addition, it is obvious that needs for placement assistance by all persons vary widely across the occupational spectrum because jobs in professional and managerial categories are usually obtained in a manner quite different from those in the service, agricultural or benchwork categories.

Since each of these issues has wide-ranging

---

<sup>1</sup>Leroy Miles, "Midlife Career Change for Blacks: Problems and Issues," The Vocational Guidance Quarterly, 30, No. 1 (1981), 5-13.

consequences for the career counselor providing services, it would be beneficial if specific information regarding the individuals who are making job changes could be obtained. Such a study would provide valuable information about the types of persons requiring assistance in securing vocational information and job placement referrals.

The findings of this study should contribute to the formulation of strategies to meet the needs of persons making changes in the job market. This dissertation provided an investigation into, and an analysis of, those areas previously detailed. In addition, the study considered data from a period of twelve years and therefore offered a base of comparison for applicant characteristics during an extended period of time. Finally, this dissertation provided an analysis of data related to this topic.

Specific characteristics analyzed and compared statistically in this study included:

1. Number of job applicants within the nine major occupational categories as defined by the

Department of Labor:

Professional/Technical/Managerial Occupations  
Clerical and Sales Occupations  
Service Occupations  
Agricultural, Fishery, Forestry and Related  
Occupations  
Processing Occupations  
Machine Trade Occupations  
Benchwork Occupations  
Structural Occupations  
Miscellaneous Occupations

and changes in the proportion of applicants within each of the categories, for the years of 1978, 1979, 1980, 1981 and 1982.

2. Total number of job applicants in each of the above four years and comparison with the number of applicants in the years 1970 and 1975.
3. Proportion of male/female applicants in each of the occupational categories and percentile changes over time within the five-year period, 1978-1982.
4. Proportion of male/female applicants in the total applicant population and changes occurring over the twelve-year period from 1970 to 1982.
5. Number of applicants working part-time and full-time, those unemployed at the time of application for services, and proportional changes over the three-year period, 1978-1980.
6. Percentage of applicants who are White, Black, Spanish-speaking, American Indian or members of other ethnic groups within each occupational category and changes in these proportions during the years 1978-1982.
7. Percentage of applicants in each occupational category according to age ranges: Less than twenty-two, twenty-three to forty-four, forty-five to sixty-four and sixty-five and over, and

changes in age distribution over the period  
1978-1982.

### Statement of the Problem

The major purpose of this study was to examine the characteristics of individuals seeking new employment opportunities in the state of Iowa. The study included all persons who applied for job-referral assistance at Job Service Offices in Iowa during the months of October, November and December in the years 1978 through 1982. Age and sex characteristics were analyzed for all individuals who applied for services at Job Service offices in October, November and December of 1970 and 1975.

### Significance of the Study

As a result of this study, a number of recommendations concerning job applicants who use the public job-referral source will be made. Such recommendations may be of value to Job Service officials and counselors in designing their programs to meet the needs of both applicants and the employers who seek referrals. In addition, such findings may be used throughout Iowa by teachers, trainers, counselors and placement specialists who work with individuals entering the job market.

By profiling the characteristics of job applicants in Iowa today, and the changes in these characteristics over an eleven-year period, the study may also prove useful to

federal, state and local officials who develop training and rehabilitation programs. Since these programs are designed to enhance the employability of their clients--the physically and mentally handicapped, the retarded, members of minority groups, displaced homemakers, youth, refugees, the aged and women--information regarding changes in Iowa's job-applicant population should prove helpful in reaching these groups and meeting their needs.

### Null Hypotheses

Six hypotheses were formulated to test changes in the demographic data collected over the twelve-year period covered in this study.

1. There was no significant change in the proportion of males and females seeking job-referral assistance through Job Service of Iowa between the years 1970 and 1982.
2. There was no significant change in the proportion of males and females seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1982 with employment goals in the following occupational categories:

Professional/Technical/Managerial Occupations  
 Clerical and Sales Occupations  
 Service Occupations  
 Agricultural, Fishery, Forestry and Related  
 Occupations  
 Processing Occupations  
 Machine Trade Occupations  
 Benchwork Occupations  
 Structural Occupations  
 Miscellaneous Occupations

3. There was no significant change in the proportion of part-time workers, full-time workers, and unemployed workers seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1980 with employment goals in the following occupational categories:

Professional/Technical/Managerial Occupations  
Clerical and Sales Occupations  
Service Occupations  
Agricultural, Fishery, Forestry and Related Occupations  
Processing Occupations  
Machine Trade Occupations  
Benchwork Occupations  
Structural Occupations  
Miscellaneous Occupations

4. There was no significant change in the proportion of Whites, Blacks, Spanish-speaking persons, American Indians, and members of other minority groups seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1982 with employment goals in the following occupational categories:

Professional/Technical/Managerial Occupations  
Clerical and Sales Occupations  
Service Occupations  
Agricultural, Fishery, Forestry and Related Occupations  
Processing Occupations  
Machine Trade Occupations  
Benchwork Occupations  
Structural Occupations  
Miscellaneous Occupations

5. There was no significant change in the proportion of persons who were age: Less than twenty-two,

twenty-three to forty-four, forty-five to sixty-four, or sixty-five and over seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1982 with employment goals in the following occupational categories:

Professional/Technical/Managerial Occupations  
 Clerical and Sales Occupations  
 Service Occupations  
 Agricultural, Fishery, Forestry and Related Occupations  
 Processing Occupations  
 Machine Trade Occupations  
 Benchwork Occupations  
 Structural Occupations  
 Miscellaneous Occupations

6. There was no significant change in the proportion of persons seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1982 with employment goals in the following occupational categories:

Professional/Technical/Managerial Occupations  
 Clerical and Sales Occupations  
 Service Occupations  
 Agricultural, Fishery, Forestry and Related Occupations  
 Processing Occupations  
 Machine Trade Occupations  
 Benchwork Occupations  
 Structural Occupations  
 Miscellaneous Occupations

#### Limitations of the Study

The sample for this study was drawn from the adult population (persons age sixteen and over) of the state of Iowa. Traditionally, the demographics of Iowa's population have differed significantly from those of the nation



as a whole in the areas of age, minority group membership, rural/urban balance and rate of unemployment. For example, in 1970, the first year included in this study, the median age in Iowa was 28.8 years while the national average was 28.3 years;<sup>1</sup> Iowa was ranked 48th in percentage of minority group residents;<sup>2</sup> and 41.4 percent of the population resided in rural areas.<sup>3</sup> During the 1970's the unemployment rate in Iowa was an average of 2 percent less than the national rate.<sup>4</sup> These and other factors may limit the applicability of findings from this study to other states.

This study included all persons who registered for job-referral assistance at a Job Service office. It is not likely that these applicants coincided exactly with those who sought assistance through private employment agencies, since not all persons seeking employment registered with both public and private agencies. Furthermore, since most of the private employment agencies specialize in professional/technical/managerial positions, it is likely that individuals

---

<sup>1</sup>Job Service of Iowa, "1980 Annual Planning Information," (Des Moines: State of Iowa, March, 1979), p. 11.

<sup>2</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," (Des Moines: State of Iowa, June, 1981), p. 3.

<sup>3</sup>Job Service of Iowa, "1980 Annual Planning Information," p. 7.

<sup>4</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," p. 10.

who registered only for their services (and not for those offered by Job Service) differed in their occupational goals from those who registered only at a Job Service office. Thus, more Iowans might have sought jobs in the professional/technical/managerial fields (and other areas as well) than are indicated in the sample selected. However, it may also be true that as the unemployment rate began to climb in the late 1970's and jobs became more scarce, that many clients of private employment agencies also began to register concurrently with Job Service.

#### Definition of Terms

Agricultural, Fishery, Forestry and Related Occupations. Includes workers such as farmers, fire rangers, tree pruners, fire lookouts, forestry technicians, etc.<sup>1</sup>

Applicant. An individual who registers with a Job Service office in order to obtain referrals to potential employers who have openings for persons with skills comparable to his/her's.

Benchwork Occupations. Includes manual workers with primarily sedentary positions such as jewelers, assemblers, optical technicians, grinders, radio and television repairpersons, tailors, sewing machine operators, etc.<sup>2</sup>

---

<sup>1</sup>United States Department of Labor, Occupational Outlook Handbook (Washington, D.C.: U.S. Government Printing Office, 1976).

<sup>2</sup>United States Department of Labor, Occupational Outlook Handbook.

Career Awareness. The inventory of knowledge, values, preferences, and self-concepts that an individual used in the course of making career-related choices.<sup>1</sup>

Career Counseling. A one-to-one or small group relationship between a client and a counselor with the goal of helping the client(s) integrate and apply an understanding of self and the environment to make the most appropriate career decisions and adjustments.<sup>2</sup>

Career Development. The total constellation of psychological, sociological, educational, physical, economic, and chance factors that combine to shape the career of any given individual over the life span.<sup>3</sup>

Career Development Theories. Theoretical bases for understanding how individuals develop vocationally. These bases provide guidance specialists with the guidelines necessary for helping them solve problems, avoid blocks, and progress with efficiency and satisfaction.<sup>4</sup>

Career Exploration. One's involvement in trying out a variety of activities, roles, and situations in order to find out more about aptitude for or interest in an occupation or other career opportunity.<sup>5</sup>

---

<sup>1</sup>Susan Sears, "A Definition of Career Guidance Terms: A National Vocational Guidance Association Perspective," Vocational Guidance Quarterly, 30, No. 3 (1982), 137-43.

<sup>2</sup>Sears, pp. 137-43.

<sup>3</sup>Sears, pp. 137-43.

<sup>4</sup>Sears, pp. 137-43.

<sup>5</sup>Sears, pp. 137-43.

Career Guidance. Those activities and programs that assist individuals to assimilate and integrate knowledge, experience, and appreciations related to:

1. Self-understanding, which includes a person's relationship to his/her own characteristics and perceptions, and his/her relationship to others and the environment.
2. Understanding of the work of society and those factors that affect its constant change, including worker attitudes and discipline.
3. Awareness of the part leisure time may play in a person's life.
4. Understanding of the necessity for and the multitude of factors to be considered in career planning.
5. Understanding of the information and skills necessary to achieve self-fulfillment in work and leisure.
6. Learning and applying the career decision-making process.<sup>1</sup>

Career Information. Information related to the world of work that can be useful in the process of career development, including educational, occupational, and psychosocial information related to working, e.g., availability of training, the nature of the work, and status of workers in

---

<sup>1</sup>Sears, pp. 137-43.

different occupations.<sup>1</sup>

Clerical and Sales Occupations. Includes workers who operate computers and office machines such as typists, records clerks, microfilmmers, telephone operators, receptionists, bookkeepers, etc., and sales personnel such as real estate agents, cashiers, automobile salespersons, route drivers, insurance agents, commissioned salespersons, etc.<sup>2</sup>

Dictionary of Occupational Titles. A Department of Labor publication which classifies, codes and describes over 25,000 jobs found in the United States today, hereafter referred to as the "DOT." Job Service offices utilize the DOT to code applicants' job goals and employers' job openings.

Intake Form 511A. A specifically designed form used by Job Service of Iowa offices to gather standardized information from applicants for job-referral assistance, referred to as the "511A."

Interest. Indications of what an individual wants to do and/or reflections of what he/she considers satisfying.<sup>3</sup>

Interviewer. A trained Job Service employee who

---

<sup>1</sup>Sears, pp. 137-43.

<sup>2</sup>United States Department of Labor, Occupational Outlook Handbook.

<sup>3</sup>Sears, pp. 137-43.

gathers information from, and offers job-referral counseling to, applicants in the public employment system.

Job. A group of similar, paid, positions requiring some similar attributes in a single organization. Jobs are task-, outcome-, and organization-centered.<sup>1</sup>

Job Placement. The process of helping an individual locate a job, apply for it, obtain it, and make satisfactory initial adjustment to it.<sup>2</sup>

Job Service (of Iowa). The official state-operated agency authorized to serve employers and job applicants in the state of Iowa. It is charged with the responsibility of providing services free to the people of Iowa, matching as many applicants seeking jobs with employers as possible.

Machine Trade Occupations. Includes workers who operate/repair machines such as aircraft, automobile, and motorboat mechanics, punch-press operators, machine builders, offset press operators, tool-and-die makers, millwrights, office machine servicer, etc.<sup>3</sup>

Miscellaneous Occupations. Includes workers in the transportation fields such as truck drivers, bus and taxi drivers, load dispatchers, parking lot attendants,

---

<sup>1</sup>Sears, pp. 137-43.

<sup>2</sup>Sears, pp. 137-43.

<sup>3</sup>United States Department of Labor, Occupational Outlook Handbook.

reservation clerks, service-station attendants, etc., and other miscellaneous positions such as motion picture projectionist, darkroom technicians, sign painters, stencil makers, material handlers, sorters, boiler operators, and stationary engineers.<sup>1</sup>

Occupation. A group of similar jobs found in various organizations. Occupations are task-, economy-, and society-oriented.<sup>2</sup>

Processing Occupations. Includes workers such as bakers, sand mixers, foundry workers, refinery operators, sandblasters, backtenders, mixers, hand molders, stove tenders, etc., who process raw materials.<sup>3</sup>

Professional/Technical/Managerial Occupations. Includes workers with high levels of education, training or responsibility such as architects, engineers, physicians, attorneys, social workers, members of the clergy, accountants, chemists, administrators, teachers, artists, pilots, counselors, actors, etc.<sup>4</sup>

Self-Concept. Global conceptions people have of

---

<sup>1</sup>United States Department of Labor, Occupational Outlook Handbook.

<sup>2</sup>Sears, pp. 137-43.

<sup>3</sup>United States Department of Labor, Occupational Outlook Handbook.

<sup>4</sup>United States Department of Labor, Occupational Outlook Handbook.

themselves, their abilities, and interests that they express through work, leisure, family, and community roles and activities.<sup>1</sup>

Service Occupations. Includes workers such as barbers, flight attendants, cooks, janitors, drycleaners, guards, police officers, waiters, housekeepers, mother's helpers, etc., who service others.<sup>2</sup>

Structural Occupations. Includes workers in the construction and heavy manufacturing areas such as welders, sheet-metal workers, boilermakers, carpenters, bulldozer operators, miners, electricians, pipe-fitters, bricklayers, construction laborers, and roofers.<sup>3</sup>

Vocation. An occupation with commitment, distinguished primarily by its psychological as contrasted with its economic meaning. Vocations are task-, outcome-, and person-centered.<sup>4</sup>

Vocational Guidance. The process of helping a person to develop and accept an integrated and adequate picture of him/herself and of his/her role in the world of work, to test this concept against reality, and to convert it into

---

<sup>1</sup>Sears, pp. 137-43.

<sup>2</sup>United States Department of Labor, Occupational Outlook Handbook.

<sup>3</sup>United States Department of Labor, Occupational Outlook Handbook.

<sup>4</sup>Sears, pp. 137-43.



a reality, with satisfaction to him/herself and benefit to society. This resulting current view of vocational guidance is self-concept oriented and focuses primarily on self-understanding and self-acceptance, to which can be related the occupational and educational alternatives available to the individual.<sup>1</sup>

Work. Conscious effort, other than that having as its primary purpose either coping or relaxation, aimed at producing benefits for oneself and/or for oneself and others.<sup>2</sup>

---

<sup>1</sup>Sears, pp. 137-43.

<sup>2</sup>Sears, pp. 137-43.

## CHAPTER TWO

### Review of Literature

#### Introduction

The majority of the early work in studying and addressing the issues related to career choice and career development concentrated on those issues leading to an individual's initial choice of an occupation. In the United States, the vocational guidance movement is generally considered to have begun during the late 1800's, as the country was changing from an economy dominated by agriculture to a major industrial nation.

Frank Parsons, an engineer by training, is popularly considered to be the primary force in creating the vocational guidance movement in the United States. Parsons' major contribution to the movement was a trait-and-factor approach to counseling. This approach contended that by matching individual traits and occupational requirements, a logical career choice would occur. Parson's theory became the cornerstone of the vocational guidance movement.

To some extent, Parson's approach is still in evidence today. His approach viewed the decision-making process as a one-time occurrence, an event which was to take place

during the early formative years as a part of the educational process.

The behaviors related to career choice for adults were largely ignored until the study of gerontology spawned an interest in research about individuals experiencing pre-retirement and retirement decisions. This research concentrated on the last career choice, but basically ignored the larger middle portion of the career life cycle.

In recent years, new attention has been given to the concept of adult life stages. This concept has received extensive coverage in both professional journals and the popular press. It has created recognition and interest in adult career behavior, adult career stages and the career related needs of adults.

#### Vocational Guidance: A Historical Perspective

Frank Parsons, an engineer by training, a man who had spent much of his life involved with a variety of reform movements and settlement houses along the Northeastern coast of the United States, established the Vocations Bureau in Boston at the beginning of the twentieth century. He also became an outspoken critic of the Boston public school system.

Parsons contended that in the early education of youth, "We must train our students to full powers of action...in the various lines of useful work so far as possible according

to their aptitudes as brought out by scientific tests and varied experience."<sup>1</sup> In Parsons' view, vocational guidance consisted of three steps:

First, a clear understanding of yourself, aptitudes, abilities, interests, resources, limitations, and other qualities. Second, a knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work. Third, true reasoning on the relations of these two groups of facts.<sup>2</sup>

A major theme in Parsons' work was a three-step approach that required improved and more complete information concerning: (a) individual differences and methods of assessment (first step); (b) an understanding of occupations (second step); and (c) the decision making process itself (third step). Until the present, the steps outlined by Parsons have generated research and development. The first step has generated work in measuring individual differences and in determining the relationship of these differences to occupational success and satisfaction. The second step has stimulated the gathering of complete and up-to-date occupational information, and more recently the third step has

---

<sup>1</sup>W. R. Stephens, "Social Reform and the Origins of Vocational Guidance," Washington, D.C.: National Guidance Association, 1970, p. 40.

<sup>2</sup>Frank Parsons, Choosing a Vocation (Boston: Houghton Mifflin, 1909), p. 5.

generated research in the field of decision making.<sup>1</sup>

Criticism of public education by Parsons and others in the United States as being too elitist, and unrelated to the actualities of life had become stronger during the industrialization period of the late 1800's. The Morrill Act of 1862 set aside public lands to support agricultural education. In 1871, John Eaton, United States Commissioner of Education, advocated introduction of commercial subjects into the public schools. Throughout the latter part of the nineteenth century the National Education Association joined with the American Federation of Labor and other labor organizations advocating nationwide comprehensive vocational education programs.<sup>2</sup>

In work undertaken for the National Guidance Association, W. R. Stephens contended that:

To many leaders of the vocational reform movement...it was but the first part of a package of needed educational reforms. They argued that a school curriculum and educational goals that mirrored the occupational structure created merely a platform and impetus for launching youth into the world of work. What was clearly needed to consummate the launch were guidance mechanisms that would insure their safe and efficient arrival on the job. Without guidance experts it

---

<sup>1</sup>Edwin L. Herr, "The Roots of Career Education," College Board Review, 105 (Fall 1977), 6-17.

<sup>2</sup>Edwin L. Herr, "Guidance and Counseling, Vocational Education, Research and Development" (Paper prepared for the National Research Council's Committee on Vocational Education, Research and Development, Washington, D.C., March, 1975).

was argued, other efforts at reform would be aborted...Therefore, in the name of social and economic efficiency, the argument continued, the youth who had been carefully trained would also have to be carefully counseled into a suitable occupational niche.<sup>1</sup>

Three basic trends seemed to be apparent from 1900-1930. During this period vocational guidance educators concentrated on studying occupations rather than individuals; vocational educators were the vocational guidance practitioners; and vocational education and guidance were seen as complementary parts of a single unit designed to distribute individuals throughout the occupational structure.

During the 1930's, 1940's, and 1950's, vocational guidance became the province of school guidance counselors whose roles were expanding as new progressive educational movements came into prominence. At the same time, teachers provided vocational guidance only to those students taking vocational education courses, a relatively small portion of the total student population.<sup>2</sup>

In 1951, Super recommended revision of the official National Vocational Guidance Association's definition of vocational guidance. This revision defined vocational guidance as:

---

<sup>1</sup>Stephens, p. 14.

<sup>2</sup>Edwin L. Herr and Stanley H. Cramer, Career Guidance Through the Life Span (Boston: Little, Brown and Company, 1979), pp. 4-5.

the process of helping a person to develop and accept an integrated and adequate picture of himself and of his role in the world of work, to test this concept against reality, and to convert it into a reality, with satisfaction to himself and to society.<sup>1</sup>

Perhaps the most important point that Super's definition of vocational guidance makes is that vocational guidance can be constructed in two different ways: (1) as a treatment condition or (2) as a stimulus variable.<sup>2</sup> In discussing this point, Edwin L. Herr and Stanley H. Cramer stated that,

If vocational guidance is seen as a treatment condition, then it will be seen as problem oriented or, at least, as appropriate primarily at decision points, thus restricted in time. As a stimulus variable, vocational guidance can be more effectively viewed longitudinally and developmentally. Vocational guidance as stimulus is more future oriented and developmental. Since Super's redefinition of vocational guidance in 1951, there has been a subtle but important shift from occupational to career models in the vocational guidance literature.<sup>3</sup>

#### Occupational Choice/Career Development and the Adult

Any attempt to help any person make career plans or occupational choices implies some theory of choice or development. Such a theory expresses

---

<sup>1</sup>Donald E. Super, "Vocational Adjustment: Implementing a Self-Concept," Occupations, 30 (1951), 88-92.

<sup>2</sup>J. O. Crites, Vocational Psychology (New York: McGraw-Hill Book Co., 1969), p. 22.

<sup>3</sup>Herr and Cramer, pp. 7-8.

our expectation, or belief, or hypothesis about the way in which plans or choices are made.<sup>1</sup>

The whole area of vocational choice and vocational psychology, from its very beginning until shortly after 1950, was basically a psychology of occupations. In other words, the occupation itself was the subject, and the persons working in it became the sources of data concerning the particular occupation.<sup>2</sup>

In 1951, one of the earliest theories of vocational choice appeared. This theory was developed by Ginzberg, Ginsburg, Axelrod and Herma and was based on a study done by the group which focused on boys ages eleven to twenty-three and two other supplementary groups. The total sample used in the study was eighty-one persons. In "Occupational Information," Robert Hoppock explained the importance of this work:

These authors shocked professional career counselors in 1951 when they accused the profession of having no theoretical foundation. Their accusation was promptly, angrily, and not very convincingly rebutted by some leaders in the profession, but it stimulated much of the subsequent research.<sup>3</sup>

---

<sup>1</sup>Robert Hoppock, Occupational Information (New York: McGraw-Hill Book Company, 1976), p. 69.

<sup>2</sup>Donald E. Super, "The Natural History of a Study of Lives and of Vocations," Perspectives on Education, 2 (1969), 13-22.

<sup>3</sup>Hoppock, p. 72.



Perhaps the most important aspect of the Ginzberg work was its insistence that the process of occupational decision-making is basically irreversible. The Ginzberg theory was widely accepted for approximately twenty years, but in 1972 Ginzberg published a restatement of the theory based upon all of the research which had been done in the interim. In general, the restatement lifted its emphasis on irreversibility and viewed occupational decision making as a life-long open-ended process which can coexist with an individual's working life.<sup>1</sup>

In introducing their book Career Guidance Through the Life Span, Herr and Cramer reinforce this same point:

Career guidance requires a developmental rather than a solely remedial approach. Such a belief requires that career guidance be conceived of as a systemic program of efforts designed to cause certain agreed upon behavior outcomes. While many of the concepts appropriate to career guidance for children and adolescents are also useful with adults, counselors working with adults must adapt these concepts to experience, and needs of adults.<sup>2</sup>

Professionals who are concerned with the personal and career counseling needs of adults have become aware of the close relationship between economic and psychological factors for individuals in adult life cycles. Swift economic and social changes in our society have strengthened this tie. Our economy is one based upon rapid technological

---

<sup>1</sup>Hoppock, pp. 72-73.

<sup>2</sup>Herr and Cramer, p. vii.

changes, and cyclical movements in productivity and employment.<sup>1</sup>

In their 1958 book, Occupational Information, Max Baer and Edward Roeber concluded that between 1929 and 1956 the overall industrial composition of non-farm employment remained fairly stable. (Growth of the labor force largely paralleled the growth of the population.) Approximately one-third of the labor force was involved in manufacturing; one-fifth in trade occupations; one-seventh in government occupations; one-tenth in service occupations; one-twentieth in construction and finance; one-twelfth in transportation and public utilities; and one-hundredth in mining. However, since the turn of the century agricultural employment declined from 40 percent of the population to only 10 percent.<sup>2</sup>

Other employment trends in the period 1929-1956 included a decline in the number of young males aged fourteen to nineteen in the work force due to child labor and compulsory school attendance laws, the lengthening of training periods for many occupations, and the higher standard of living which lead to an increased interest in higher education (13.6 percent of the population twenty-two years of age

---

<sup>1</sup>Alan D. Entine, "Counseling for Mid-Life and Beyond," The Vocational Guidance Quarterly, June 1977, pp. 332.

<sup>2</sup>Max F. Baer and Edward C. Roeber, Occupational Information (Chicago, IL: Science Research Associates, 1958), pp. 21-34.

had college degrees in 1956 as contrasted to 1.8 percent in 1900).

Similarly, 62 percent of the population eighteen years of age in 1955 had a high school diploma while only 6.3 percent graduated from high school in 1900. The proportion of older men, especially aged sixty-five and over in the work force also declined due to the decrease in importance of agriculture, growing mechanization of industry, and early retirement due to improved public and private social security programs.<sup>1</sup>

In 1968, Peter Drucker traced the large increase in the number of years in the average working-life span and in the period of schooling preceding it. In 1900, only a tiny minority of the population could expect to work full time with full working capacity past the age of forty-five, while workers in the 1960's could expect to work productively until retirement at age sixty-five.<sup>2</sup> The primary reason for the change was the shift away from farming, a physically demanding work, by the majority of the population.

However, at the same time, the age of entrance had been raised by the "educational explosion." Drucker concluded that the increasing level of educational requirements for jobs at all levels was more concerned with

---

<sup>1</sup>Baer and Roeber, pp. 21-34.

<sup>2</sup>Herman J. Peters and James C. Hansen, eds., Vocational Guidance and Career Development (New York: Macmillan Company, 1971).

postponing entry into the job market, than it was for the need for more knowledge on the job.

There is no reason in the work itself why a 14 year old girl was old enough to sell behind a counter in 1914 and why today the salesgirl has to have a high school degree (and preferably a year or two of college).<sup>1</sup>

The extension in the amount of time required in preparation for work in turn raised the expectations of young entrants into the world of work. Consequently, the labor supply shifted and the supply of jobs available had to accommodate this change. Jobs had to be created which would satisfy heightened expectation, and more money had to be paid to workers in unchanged jobs.<sup>2</sup>

Drucker also concluded that the American economy managed to provide the needed jobs to satisfy the increased aspirations of the extended schooling graduates. In addition, the economy was able to maintain productivity. Large numbers of upgraded positions were being created without much experience with this kind of worker and work.<sup>3</sup>

Despite the extension of years of schooling now necessary to enter the job market, Drucker also concluded that the existing job structures are inappropriate to a working-life span of forty years or more. The

---

<sup>1</sup>Peters and Hansen, p. 73.

<sup>2</sup>Peters and Hansen, p. 74.

<sup>3</sup>Peters and Hansen, p. 75.

"knowledgeable" worker tends to get bored after twenty or twenty-five years on the job, especially those in middle management positions who reached the pinnacle of their profession but did not wear out physically from the strain of their work. These workers are often still in top physical and mental condition and more than fifteen years from retirement. These workers need assistance in acquiring a second career.<sup>1</sup>

### The Needs of Adult Workers

In "Psycho-Social Aspects of Work," Joseph Sampler stated,

It should be crystal clear that the picture that occupational information presents today is one of the Economic Man. It is a one dimensional portrayal of man who, contrary to the soundest of folk wisdom, lives by bread alone...As far as present resources in occupational literature are concerned, information that would characterize the Psychological Man at work is deficient or non-existent.<sup>2</sup>

Sampler goes on to define the "Psychological Man" as the worker's role, his values and attitudes, status, interaction with others, life style away from work and the totality of the way that his personality needs are met. He argues that all of the above are considerations that deal with personality dynamics and that they are not often taken into

---

<sup>1</sup>Peters and Hansen, p. 83.

<sup>2</sup>Joseph Sampler, "Psycho-Social Aspects of Work: A Critique of Occupational Information," Personnel and Guidance Journal, 34, No. 6 (1961), 458-65.

account in the counseling process.<sup>1</sup>

In "A Sociological Approach to Work Life" Edward Gross finds that something much broader than pure vocational counseling is needed to assist workers today. Besides attending to the specifics of the job, effective counseling must deal with all of the following areas: the relationship between work history and the life cycle; life in the organization; life in the community and changes from one community to another; changing educational requirements for work; the use of recreational opportunities for self-development; and understanding societal and economic conditions which affect occupational careers.<sup>2</sup>

In Occupational Careers Walter Slocum noted in the mid-1960's that while early occupational decisions resembled economic decision making, occupational turning-point decisions also involve important noneconomic considerations. After becoming committed to an occupational role with important responsibilities, emotional problems may ensue when the worker has to adjust to new interpersonal relationships and learn new organizational values and behavior

---

<sup>1</sup>Peters and Hansen, pp. 207-08.

<sup>2</sup>Edward Gross, "A Sociological Approach to Work Life," Personnel and Guidance Journal, 45, No. 5 (1967), 416-23.

standards.<sup>1</sup>

The need for vocational counseling of adults making mid-life career changes was emphasized by E. C. Thoroman as early as 1968. He noted that vocational counseling efforts during the previous quarter century developed into an extensive network of services for youth and young adults. Since the bulk of services were provided by schools and colleges, only a very limited amount of counseling was available to adults. Such services were becoming increasingly important due to financial factors such as demand for a higher standard of living, the effects of inflation, and automation; and social factors such as the need to reduce unemployment and the increasing number of women entering the labor force.<sup>2</sup>

Herr and Cramer summed up the traditional lack of vocational counseling for adults in this way,

Until fairly recently, anyone interested in career guidance might well have wondered if there is a career life after adolescence. Early work in career development and behavior focused on factors and processes leading to the initial choice of an occupation and rarely addressed adult career development.<sup>3</sup>

This issue is obviously a significant one in an age when

---

<sup>1</sup>Walter Slocum, Occupational Careers (Chicago: Aldine Publishing Company, 1966), p. 198.

<sup>2</sup>E. C. Thoroman, The Vocational Counseling of Adults and Young Adults (Boston: Houghton Mifflin Company, 1968), pp. 170-72.

<sup>3</sup>Herr and Cramer, p. 232.

the number of women entering the work force after child-bearing years is increasing, at the same time the birth rate has declined steadily so that there is and will continue to be a smaller proportion of young workers in the labor force. In addition, the rate of marriage is declining while divorce is increasing rapidly (putting more women into the work force), people are working and living longer as a result of improved health care and disease control, and industrial change is constantly occurring and displacing workers.<sup>1</sup>

Herr and Cramer cite a 1975 study by Sinick which offered twenty-six factors as a partial list of reasons why individuals change careers:

- \*Initial career not person's own choice
- \*Career inappropriate from outset
- \*Original aspirations not met by career
- \*Purpose of first career accomplished
- \*Change of career required by changing goals
- \*Satisfaction sought for higher level needs
- \*Dead end reached in terms of advancement
- \*Inadequate outlet for creativity
- \*Insufficient challenge to abilities
- \*Data-people-things involvement inappropriate
- \*Incongruence with vocational interests
- \*Desire to implement avocational interests
- \*Disproportion between prescribed and discretionary duties
- \*Insufficient variety in work content
- \*Work pressures and deadlines too demanding
- \*Work context source of dissatisfactions
- \*Employer policies and practices dissatisfying
- \*Purpose of employer enterprise incompatible
- \*Co-workers divergent in values and lifestyles
- \*Personality conflicts with supervisor or co-workers

---

<sup>1</sup>Herr and Cramer, pp. 232-33.



- \*Earnings outstripped by living expenses
- \*Desire to "keep up with the Joneses"
- \*Social status of occupation inadequate
- \*Insufficient time for leisure activities
- \*Greener grass in another field<sup>1</sup>

Herr and Cramer then explode the myth that individuals who voluntarily change careers do so because of a personality or character flaw. However, their conclusion is that since "adults are indeed experienced based" there may never be a uniform adult career psychology.<sup>2</sup>

### The Changing Workforce

In every occupation and industry, the number of job-seekers and the number of job openings constantly change. A rise or fall in the demand for a product or service affects the number of workers needed to produce it. New inventions and technological innovations create some jobs and eliminate others. Changes in the size and age distribution of the population, work attitudes, training opportunities, or retirement programs determine the number of workers available. As these forces interact in the labor market, some occupations experience a shortage, some a surplus, some a balance between Job-Seekers and openings. Methods used by economists to develop information on future occupational prospects differ, and judgments which go into any assessment of the future also differ.<sup>3</sup>

---

<sup>1</sup>Herr and Cramer, p. 236.

<sup>2</sup>Herr and Cramer, p. 237.

<sup>3</sup>U.S. Department of Labor, Occupational Outlook Handbook, p. 6.

### Trends for the Future

Predicting trends and future needs for manpower in particular areas is hampered by a number of factors. In a study done for the National Science Foundation, A. H. Pascal noted a few of these factors.

Manpower requirement forecasts--typically estimate only the gross number of openings in an occupation. Seldom is a figure calculated that is the net of the number of people already preparing to enter the field. That is true even for professions requiring long periods of formal schooling, and for which the numbers of future entrants are therefore potentially ascertainable. It is virtually impossible to derive net figures in fields where preparation is much shorter or much less identifiable.

Forecasts almost never furnish geographic disaggregation, but most people contemplating a new career are strongly interested in where they may effectively follow it. To know that auto mechanics will be in short supply nationally is meager reassurance for the person who wants to stay in his home town or any other specific place.

Forecasts are not always accurate, even in fields where preparation is standardized and mandatory and in which prediction is therefore easiest (school teachers, physicians). The situation is unlikely to improve, since systematic follow-ups are almost never made to ascertain forecast accuracy.

Even if they are free from the foregoing defects, forecasts almost invariably assume that new entrants will be young and consequently will accept jobs at the bottom of the ladder; yet seniority rules make it difficult for older workers to enter a field laterally.

Forecasts are based on long-term trends, not on the probability of sudden dislocations. The problem bulks larger for people who are forced

to switch careers because they are found to be redundant or obsolete.<sup>1</sup>

One futurist, Peter Drucker, predicts that while the economy of the United States has traditionally been based on the production of goods, in the future, the production of knowledge will be the focus. He predicts a massive shift to what he calls "knowledge work."<sup>2</sup> Retraining workers to knowledge work demands that individuals have the psychological capacity to relearn. Drucker argues:

Both transition problems, that of the unskilled mass-production worker and that of craft skill and craft organizations, will be most acute in the United States. For it is here that the new knowledge economy is developing the furthest and the fastest.<sup>3</sup>

Regardless of how brilliant or provocative the predictions of the futurists, like Drucker may be, they are still only educated guesses. One thing is certain, however, when describing the labor force and its needs, a great deal has changed, is changing, and will continue to change.

#### Women in the Work Force

One change of which we are certain is the increasing number of women who are entering the work force. A

---

<sup>1</sup>A. H. Pascal et al., "An Evaluation of Policy Related Research on Programs for Mid-Life Career Redirection: Vol. I, Major Findings" (presented to National Science Foundation, Washington, D.C., 1975), p. 161.

<sup>2</sup>Peter F. Drucker, The Age of Discontinuity (New York: Harper and Row, 1968), p. 305.

<sup>3</sup>Drucker, p. 305.

significant proportion of these women are re-entering the world of work after a substantial absence. Another significant group of working women is comprised of those who are entering the work force for the first time.

In their 1958 book, Occupational Information, Baer and Roeber described the tremendous changes that had taken place during the previous half century:

In 1910 a little more than 7,000,000 women were employed outside of the home. In 1956 over 20,000,000 women were in the labor force. Of these 30% were clerical workers; 23% service workers; 18% were operatives and kindred workers; 11% professional workers and technical workers; 5% were proprietors, managers and officials; 4% were farm laborers; 1% were craftsmen, foremen or kindred workers; 1% was a farmer or farm manager; and  $\frac{1}{2}$ % was a laborer other than farm or mine.<sup>1</sup>

In 1972, the United States Bureau of the Census reached the following conclusions concerning the change in the number of working women between 1950 and 1971:

In 1959, in 46.9 percent of white households, only the husband worked, while in 33.7 percent of white households both the husband and the wife worked. Corresponding figures for black households were 35.2 percent and 44.1 percent. By 1970, the percentage of white households where only the husband worked had dropped to 23.9 percent, and the husband-wife combination had risen to 58.1 percent. Put in another perspective, in 1950 31.6 percent of the female civilian labor force was single, 52.1 percent married, and 16.3 percent widowed or divorced. By 1971, these percentages had changed to 22.7

---

<sup>1</sup>Baer and Roeber, p. 95.

percent single, 63.1 percent married, and 14.2 percent divorced.<sup>1</sup>

The impact of these statistics may be seen in these quotes from the Monthly Labor Review journal: "The number of children whose mothers were in the work force increased over 10 million between 1960 and 1970."<sup>2</sup> Elizabeth Waldman and Anne M. Young discuss this subject in more detail.

In 1970, one-fourth of all married women, husband present, with children under 3 years old were part of the American work force. The proportion was over one-third for those whose youngest children were 3 to 5, and one-half for those whose children were old enough to be in school. Generally, the wives with the least education had the lowest labor force rate at every level of husband's income.<sup>3</sup>

In 1982 Jean Wilson, William J. Weikel and Harold Rose compared nontraditional and traditional career women in response to their claim that "Despite the drastic changes occurring as women enter the labor force, research has not adequately addressed the role of females in the American work force."<sup>4</sup>

---

<sup>1</sup>U.S. Bureau of the Census, 1970 Report (Washington, D.C.: U.S. Government Printing Office, 1970), p. 219.

<sup>2</sup>Elizabeth Waldman and Kathryn R. Gover, "Children of Women in the Work Force," Monthly Labor Review, 94 (June 1971), 20.

<sup>3</sup>Elizabeth Waldman and Anne M. Young, "Marital and Family Characteristics of Workers," Monthly Labor Review, 94 (June 1971), 49.

<sup>4</sup>Wilson et al., p. 109.

In comparing a group of female teachers (Traditional Group--TG) with a group of females in executive or managerial positions (Nontraditional Group--NTG) the authors found little difference between the groups in terms of family or origin environments, general reasons for working, number of children, problems with role conflict, marital status or birth order.

However, significant differences were found between the groups in several areas. While women in the TG most frequently cited parents as the people most supportive during career decision-making periods of their life, women in the NTG most often cited their husbands. Women in the TG were more likely to be college graduates and had an average of two more years of education than those in the NTG. The authors concluded that:

The present study has implications for vocational guidance. Results indicate that most of the NTG chose their careers after marriage, thus supporting the need to emphasize awareness of non-traditional careers for females in elementary school, high school and college. Resource women such as those in the study, who have been successful in nontraditional careers, can serve as role models for females to increase this awareness.<sup>1</sup>

#### Minority Participation in the Work Force

Another group whose role within the work force has changed, and is continuing to change, is that of the

---

<sup>1</sup>Wilson et al., p. 118.

minority worker, and in particular, the black worker. A rather traditional method of observing changing work roles is that of observing who is being trained, educated and prepared for what type of occupation. According to the Office of Civil Rights of the United States Department of Health, Education and Welfare, in 1972 black men and women comprised approximately 8 percent of full-time undergraduate students enrolled in institutions of higher education in the United States. Other visible minorities, in total, represented about 4 percent of full-time undergraduates (0.5 percent Native Americans, 1 percent Orientals and 2.5 percent Spanish-speaking Americans).<sup>1</sup>

In the 1960's, R. LaCasio wrote an article maintaining that while black students enrolled in institutions of higher education may be highly motivated and may in fact believe in the system, the career development of black students is more likely to be delayed or impaired than that of the more advantaged populations.<sup>2</sup>

However, D. C. MacMichael, in an article discussing conflicts in the classroom, maintains that the black

---

<sup>1</sup>U.S. Department of Health, Education and Welfare, Office for Civil Rights, Racial and Ethnic Enrollment Data from Institutions of Higher Education (Washington, D.C.: U.S. Government Printing Office, 1973).

<sup>2</sup>R. LaCasio, "Continuity and Discontinuity in Vocational Development Theory," Personnel and Guidance Journal, 46 (1968), 844-85.

student is as likely as any other student to come to higher education with ambition and an appreciation for work and high career expectations.<sup>1</sup>

Herr and Cramer also discussed the lack of career development experienced by some black students and state that the lag

manifests itself at the collegiate level in such problems as a discrepancy between a desire for a college education and a career choice that does not require that level of education, a general lack of knowledge of alternatives, possible skill deficits, and a not very clearly formed picture of oneself in relation to the world of work. These problems are hardly unique to blacks, but they may be more characteristic of black students as a group than of whites.<sup>2</sup>

In a study of career development research done in 1975, E. J. Smith stated that the profile of the black individual as portrayed in career development research is

a portrait of a vocationally handicapped person. According to the studies examined, the average Black, if one can speak of average individuals of any racial group, is one who may lack positive work role models; does not manifest a lifetime commitment to a career as a way of life; is work-alienated; and places a greater priority on job security rather than self-fulfillment in an occupation. Moreover, he tends to have a negative self-image which fosters identity foreclosure and a rigid closing out of self and directions. His aspirations are high; but his expectations of achieving his desired occupational goals are low. He has limitations placed upon his occupational mobility

---

<sup>1</sup>D. C. MacMichael, "Work Ethics: Collision in the Classroom," Manpower, 6 (January 1974), 15-20.

<sup>2</sup>Herr and Cramer, p. 219.



because of his racial membership; evidences interests that are more person than thing-oriented; (and) is vocationally immature...<sup>1</sup>

Herr and Cramer's comments on this subject are similar:

One may surmise that many blacks will come to higher education with high aspirations and with a desire to translate those ambitions into a rewarding and satisfying career; however, they may be impeded in that quest by psychological as well as skills deficits. The task of the career helper is to convert those deficits into assets.<sup>2</sup>

Another method of observing changes in a workforce is to observe how current phenomenon are affecting certain groups or individuals. One such very current phenomenon or area of interest is the mid-life career change.

In his article "Midlife Career Change for Blacks: Problems and Issues," Leroy Miles focuses upon the extent to which Blacks at midlife are able to pursue their careers in an upward fashion leading to positions of higher rewards and challenges. Miles stated that

Midlife is a period in which adults of all persuasions make career decisions. Midlife crisis, job obsolescence, rapid social and technological change, and dissatisfaction with one's occupation have all been contributing factors.<sup>3</sup>

---

<sup>1</sup>E. J. Smith, "Profile of the Black Individual in Vocational Literature," Journal of Vocational Behavior, 6 (1975), 55.

<sup>2</sup>Herr and Cramer, p. 219.

<sup>3</sup>Miles, p. 7.

Miles concluded that Blacks, as a group, have not received significant attention in the literature in relation to this issue. He also documented previous research which demonstrated that Blacks at midlife face additional obstacles due to a lack of education, overt discrimination, and traditionally limited opportunities for entrance into occupations which offered high salaries and levels of satisfaction. Miles cited 1979 figures which showed that career opportunities for Blacks remained limited:

only 25% of Blacks 16 years of age and older held white-collar jobs compared to 53% of Whites...By contrast 24% of all Blacks 16 years of age and older held service jobs compared to 11% of White workers.<sup>1</sup>

Miles also uncovered evidence that methods of seeking employment also differ between Blacks, who tend to use public employment agencies, and Whites, who more often use private employment agencies. This is significant because other researchers have demonstrated that a high percentage of jobs offered through private agencies offer white-collar jobs.<sup>2</sup>

Another difference Blacks' and Whites' job-seeking behavior involves is the use of social networks to uncover job opportunities, especially those in professional, technical and managerial fields. Miles cited a study

---

<sup>1</sup>Miles, p. 6.

<sup>2</sup>Miles, p. 9.

by Granovetter in 1974 which showed that 56 percent of the respondents learned of their jobs through personal contacts made outside of the formal job search process. Granovetter noted that "This system presents problems for Blacks and other minorities who have not developed such social networks."<sup>1</sup>

Miles argued that:

Career awareness for Blacks at midlife requires some fundamental changes in the job information system. Agencies and organizations, especially those which Blacks frequent for jobs and job information, must undertake an intensified cooperative effort to develop and distribute comprehensive occupational information to Blacks.<sup>2</sup>

#### Middle Age and Older Persons in the Work Force

Still another group of individuals within the work force who are experiencing a great deal of change are the older workers.

Individuals concerned with the personal and career counseling needs of adults have become aware of the close relationship between the economic and psychological factors of the mid-life counseling process. Swift economic and social change has strengthened this tie and has projected these joint concerns into the post-retirement life stage as well...

Some of the recent changes in our society that are affecting adult career paths and life-styles can be briefly described. Our economy is characterized by rapid technological change and cyclical movements in productivity and employment.

---

<sup>1</sup>Miles, p. 9.

<sup>2</sup>Miles, p. 9.

Unemployment, a consequence of these market factors, is particularly serious for the worker over 45 years of age. The unemployed older worker can expect to remain out of work for 30 percent to 70 percent longer than his or her younger counterpart. Unemployment statistics are understated by those who have become so discouraged from seeking work that they have stopped looking and are thus counted as "not in the labor force" rather than unemployed.<sup>1</sup>

When unemployment strikes the older worker, it is likely to be for long periods of time, and the process of looking for work is frequently fraught with barriers that produce debasement, humiliation and frustration. As age increases, occupational mobility decreases, thus cutting down on the alternatives that the older worker can pursue. They experience considerable difficulty in getting placed in a job.<sup>2</sup>

Recognizing that unfavorable attitudes do exist among employers toward older workers, Maltzer undertook a study during the mid-1960's to determine whether younger (aged forty or less) or older (aged forty-one or above) workers have significant attitudinal differences which should be considered in hiring decisions. Both groups of workers were equally spread across various job classifications such as clerical, skilled, semi-skilled and unskilled labor. A forty-one item morale questionnaire was administered. It consisted of twenty-seven items that measured work attitudes and fourteen items concerned with life adjustment attitudes.

---

<sup>1</sup>Entine, p. 332.

<sup>2</sup>Herr and Cramer, p. 242.

Maltzer found that there were twenty significant differences between the two group's responses on the work attitudes questions, nineteen in favor of the older group, one in favor of the younger group (finding workers agreeable and cooperative). The older workers demonstrated more satisfaction with their jobs, company decisions, their supervisors, chances for advancement, employee training, pay scale, company disciplinary policies, and on and on. On the life adjustment items, half of the items showed significant differences and all of these were more positive on the side of the older workers. These items included reaction to one's neighborhood, satisfaction with amount of time for recreation, share of happiness, national political situation and effect of company experience on happiness. As a result of this study, Maltzer concluded that the more favorable attitudes expressed by older workers are advantageous for the company as well as the worker.<sup>1</sup>

In a study done to examine the impact that layoffs have on older workers, Turner and Whitaker make the point that perhaps one should make some type of a descriptive division between younger older workers (age forty-five to fifty-four) and the older older workers (age fifty-five to seventy). In their study which examined laid-off workers in a space-related industry, they found that while the fifty-five to

---

<sup>1</sup>H. Maltzer, "Attitudes of Workers Before and After Age 40," Geriatrics, 20, No. 5 (1965), 425-32.

seventy year old group experienced great difficulty in finding new jobs, the forty-five to fifty-four year old age group had no more difficulty in finding new employment than any other group. In addition, Turner and Whitaker discovered that the fifty-five to seventy year old group not only had more difficulty in finding new work, but they also were unemployed longer before finding a job and eventually earned generally lower pay when they did find employment.<sup>1</sup>

### Career Change

Perhaps the most well known phenomenon related to the older individual in the work force is that revolving around the so-called mid-life career change.

From preschool onward children are asked "What do you want to be when you grow up?" Although children's answers change as they mature and police officer and nurse may give way to teacher or bricklayer, the question remains the same. The implication of the question is that one "becomes" something, and stays that way. In the current world, with future shock a present reality, few people remain with one occupation for life.<sup>2</sup>

A number of theories have been advanced to explain the phenomenon of mid-life career change. One explanation for the increase in mid-life career change, which might be called the "counterculture hypothesis," holds that dissatisfaction with the

---

<sup>1</sup>Robert Turner and William Whitaker, "The Impact of Mass Layoffs on Older Workers," Industrial Gerontology, 16 (Winter 1973), 14-21.

<sup>2</sup>Elinor Waters and Jane Goodman, "Career Counseling for Adults: Why, When, Where, How?" The Vocational Guidance Quarterly, 25, No. 4 (1977), 337.

present social system has led individuals to leave the mainstream of society. Two of the most thorough studies of middle-aged career changers sampled persons who dropped out of professional and managerial jobs to live in less complicated settings. Both studies found dissatisfaction with our social system to be a common theme among their respondents. Obviously such findings can't be generalized to the broader population of career changers, but study of these special populations has added credence to the counterculture hypothesis.

A second explanation might be called the "Gaugin" or "developmental hypothesis." The current unrest, it is suggested, is much like that experienced by Gaugin who, at mid-life, left his banking career to go to the south seas to paint. While not all men change careers at this time, almost all undergo a time of greater or lesser personal crisis. Those we have seen changing careers in recent years...have taken advantage of new opportunities to express the new set of values and goals that this developmental change brought into focus.

The third approach to explaining the increase in mid-life career change focuses not on individual development, nor on political ideology, but calls attention to changes that have taken place in the larger society, which make career change possible and desirable. This macrosocial approach would call attention to rapid social and economic change causing dislocation in the occupational sphere, such that careers become obsolete, or at least need frequent upgrading. If a person is required to continue his education anyway, the opportunity to change careers in the process will be more tempting, especially because rapid change in the occupational sphere opens up new career opportunities.<sup>1</sup>

Not too long ago there was a prevalent notion that voluntary career shifters were "oddballs," individuals who because of some personality flaw or character disorder were thought to be deficient in adaptive skills, were labeled professional

---

<sup>1</sup> L. Eugene Thomas, "Causes of Mid-Life Change from High Status Careers," The Vocational Guidance Quarterly, 27, No. 3 (1979), 202-03.

malcontents, or otherwise were deemed lacking in some way. In fact, most studies of career shifters versus career persisters indicate no differences in emotional adjustment.<sup>1</sup>

In a study attempting to look at how a person's personality may affect his/her willingness or proneness to make a career change, Clopton grouped career shifters into three types:

Type A: Shifts undertaken as a direct consequence of some major event that impels the shifter to reformulate the meaning of his life and personal goals.

Type B: Shifts that result primarily from the shifter's gradual disenchantment with his first career. The typical pattern is that the shifter first becomes aware of being more bored and/or disillusioned with his work; he begins casting about for a different profession which he feels would permit fuller utilization of his potential.

Type C: Shifts that occur after a shifter realizes that, although he still enjoys his first career, there is another profession which would give him at least as much, and possibly more, satisfaction. Typically, in such cases, the second career begins as an avocational interest and develops gradually to the point of becoming a full-time commitment.<sup>2</sup>

Looking further into the issue of personality and what role it may play in career change decisions, L. Eugene Thomas stated:

There is evidence that the work environment molds or at least stabilizes individual personality, the implication being that personality would be less stable without such environmental support.

---

<sup>1</sup>Herr and Cramer, p. 236.

<sup>2</sup>W. Clopton, "Personality and Career Change," Industrial Gerontology, Spring 1973, p. 11.



Study of those who change careers in middle age, especially those who move to markedly different environments (e.g., from a Wall Street broker to a self-employed potter), would give us an opportunity to find out how much continuity and change there is in their personalities.<sup>1</sup>

Thomas went on to say that:

The fact that current social and economic factors allow people new-found options to make changes in their careers in middle age presents us with a natural experiment. It boggles the mind to imagine the resources and ethical dilemmas that would be involved in subjecting people to these factors experimentally, but we currently have the natural manipulation (if that is the term) of life-affecting variables. How middle-aged people respond to this situation, whether by making radical career change or by holding onto their present positions until retirement, gives a rare opportunity to study psychological development during this relatively uncharted part of the life cycle.<sup>2</sup>

If personality does in fact play a part in the decision making process surrounding career change, what type of process is actually taking place? Janet C. Armstrong reported on research concerning the decision making process used by adults making a career change in midlife in her article "Decision Behavior and Outcome of Midlife Career Changers." She describes two approaches used by persons deciding to change careers by furthering their education at midlife.

---

<sup>1</sup>Thomas, p. 38.

<sup>2</sup>Thomas, pp. 38-39.

The first approach, labeled "incremental"<sup>1</sup> is "characterized by a goal of marginal change and a choice based on restricted alternatives and limited information."<sup>2</sup> The individual acts to move away from an unsatisfactory situation and the goal is greatly affected by the means available to attain it. The decision is not made on the basis of attaining an ideal goal, but rather to find a more workable solution to a present situation.

The second approach, a "rational"<sup>3</sup> one is "characterized by a wider range of alternatives, a broader information base, and selection of an optimal alternative that may reveal a goal of major change."<sup>4</sup> The final decision more often consists of major change and is therefore often irreversible.

Armstrong studied two groups of persons who had attended a large community college, one of which was aged thirty-five to fifty-five and was still enrolled in school at the time of the study. The second group, also aged thirty-five to fifty-five, was no longer enrolled in school

---

<sup>1</sup>Janet C. Armstrong, "Decision Behavior and Outcome of Midlife Career Changers," The Vocational Guidance Quarterly, 29, No. 3 (1981), 206.

<sup>2</sup>Armstrong, p. 206.

<sup>3</sup>Armstrong, p. 206.

<sup>4</sup>Armstrong, p. 206.

but had completed at least forty-five quarter credits. The questionnaire, given to both groups, contained items developed to operationally define "(a) type of decision pattern, (b) marginal and major career change goals, and (c) success in the decision outcome."<sup>1</sup>

There were ninety-four respondents in the study. Their mean age was 42.5, 66 percent were female and 35 percent of the females were homemakers. The chief reason for making a career change was job dissatisfaction. Two-thirds of the respondents used behavior resembling an incremental approach, and the other third relied upon a rational pattern. Less than one in seven had used counseling or career planning services during the five-year period preceding the study.<sup>2</sup>

Armstrong also found a significant association between the career goal and the pattern of decision making. Marginal career change was associated with the incremental pattern, while major career change was associated with the rational pattern. The author theorizes that since so few of the respondents used any counseling services, "in all likelihood respondents relied on habitual patterns of decision behavior and for the majority of them this behavior

---

<sup>1</sup>Armstrong, p. 208.

<sup>2</sup>Armstrong, p. 209.

resembled the incremental pattern."<sup>1</sup> However, while 78 percent of respondents who used a rational approach succeed in making a career change, less than 50 percent of those using an incremental pattern did.

Armstrong concluded with the following implications for career counselors:

The data in this study suggest that if a rational decision approach is used, then the return to school is likely to be a good decision. How thorough is the search for other alternatives? For two-thirds of these respondents the answer is minimal. Are counselors a resource for career changers? Not really, although from this study such help would seem needed given a success rate of 54 percent after so much schooling.<sup>2</sup>

#### Iowa, Its People, Its Workforce

To prove that it is really the heart of the heart-land, the middle ground between the extremes of American life, Iowa is exactly twenty-fifth in size among the fifty states. With an average of fifty persons per square mile, and a total of 2,800,000 people, Iowa is also twenty-fifth among the states in population. This marvelous balance expresses itself also in the Iowa character, an extremity of moderation...It is that quality of the strong middle which distinguishes Iowa from the other Midwestern states, identical as they might appear on a map.<sup>3</sup>

The state of Iowa is located in the North Central Region of the United States and is the only state bordered

---

<sup>1</sup>Armstrong, p. 210.

<sup>2</sup>Armstrong, p. 210.

<sup>3</sup>Paul Engle and John M. Zielinski, Portrait of Iowa (Minneapolis, MN: Adams Press, 1974), p. 16.

by two great rivers, the Mississippi on the east and the Missouri on the west. River transportation played a significant part in the settlement and development of Iowa. The Mississippi still provides a means of transportation for shipping farm products out of Iowa and petroleum products into it.<sup>1</sup>

The eastern portion of the state was the first settled. The Mississippi River cities of Keokuk, Fort Madison, Burlington, Muscatine, Davenport, Clinton and Dubuque had become important centers of trade and industry while the western portion of the present state of Iowa was still a wilderness. With the addition of the cities of Cedar Rapids and Waterloo, both within 70 miles of the Mississippi, manufacturing is still largely confined to this eastern corridor. This is the result of priority of settlement and the transportation and other advantages provided by the river. The eastern portion of the state is also influenced by its nearness to the Chicago area which offers closer markets and more ready access to raw materials such as steel and subcontracting opportunities.

West of this region, manufacturing is of much less importance, even in the cities. The largest city in the state, Des Moines, depends mainly on insurance, trade, services and government for its job opportunities. Only about 20 percent of its employment is in manufacturing. Sioux City is somewhat oriented toward Nebraska and South Dakota and functions more as a trade center than as a manufacturing center...

The central and northwestern parts of the state contain the best farmland although the east central region also contains much fertile land.<sup>2</sup>

---

<sup>1</sup>Job Service of Iowa, "Annual Iowa Manpower Planning Report, Fiscal Year 1972," (Des Moines: State of Iowa, June 1971), p. 3.

<sup>2</sup>Job Service of Iowa, "Annual Iowa Manpower Planning Report," Fiscal Year 1972," p. 3.

### The Agricultural Workforce

Since the turn of the century, the number of persons living and working on farms has declined steadily due to improved technology such as large, mechanized farm implements, hybrid seed corn, herbicides, insecticides and livestock food supplements.<sup>1</sup> In 1970, there were 185,600 farm workers in Iowa, down from 281,400 in 1950 when 2.7 workers were employed in nonagricultural employment for each person working in agriculture.<sup>2</sup>

agriculture might appear no longer of paramount importance in Iowa, but this is not the case. Iowa ranks first among the states in the number of hogs raised and in the value of livestock and livestock products sold...Iowa ranks second in the number of cattle on hand, the amount of both corn and soybeans raised and in the value of all farm products sold. The nonagricultural economy in Iowa, more so than in the highly industrialized states, depends greatly on agriculture, either as a market or as a source of raw materials. Two of the three largest manufacturing industries in Iowa are farm machinery manufacturing and food processing. The one depends on the farm as a market for its products and the other as its source of raw materials.<sup>3</sup>

The largest manufacturing industry in the state is the processing of food and kindred products, many made from Iowa's grain crops. However, by 1970 employment in this industry had stopped growing and most new job opportunities

---

<sup>1</sup>Job Service of Iowa, "1970 Annual Manpower Planning Report," (Des Moines: State of Iowa, 1970), p. 31.

<sup>2</sup>Job Service of Iowa, "1970 Annual Manpower Planning Report," p. 6.

<sup>3</sup>Job Service of Iowa, "1970 Annual Manpower Planning Report," p. 6.

were occurring in durable goods manufacturing and in the nonmanufacturing industries.<sup>1</sup>

Iowa experienced a dramatic economic change during the 1960's...new industry moving into Iowa created a better balanced economy. Agriculture is no longer the dominant industry but shares the responsibility for state growth with industries that manufacture everything from school buses for Alaskan children to electronic gear for men on the moon.

However, the basic stimulus of agriculture is still present even though its influence has been lessened by new or expanded industries. Many of the new or expanded industries sell their products to Iowa farmers or to farmers in surrounding states in the form of chemicals, agricultural equipment and services to the farming community. Livestock and grain purchased from the Iowa farmer are processed and grain purchased from the Iowa farmer are processed and distributed to consumers across the nation as well as throughout the world.

Industry growth is shown by the increase in annual average nonagricultural employment...Iowa's geographical location, the availability of railroad and river transportation and easy access to interstate highways have been cited by industry as reasons for locating in Iowa...

To supply the technical manpower needed by industry, the state along with local civic leaders has created area or community colleges. Approximately 98,000 persons were enrolled in post high school instruction on a full-time, part-time or adult education class basis at the end of 1969. A majority of them were enrolled in vocational-technical programs of instruction...Some educators believe that these new vocational schools will have as great an effect on the development of the Iowa economy as did the creation of the original private and state colleges and universities.<sup>2</sup>

---

<sup>1</sup>Job Service of Iowa, "1970 Annual Manpower Planning Report," p. 6.

<sup>2</sup>Job Service of Iowa, "1970 Annual Manpower Planning Report," p. 2.

Between 1970 and the end of that decade, the nonfarm wage salary employment in Iowa increased by over 25 percent. Manufacturing employment grew during this period (over 15 percent), but the nonmanufacturing sector grew by almost twice as much (almost 30 percent).<sup>1</sup>

Leading growth industries between 1970 and 1978 included construction machinery manufacturing (144.4 percent growth), medical services (61.2 percent), construction (41.9 percent), rubber goods manufacturing (41.0 percent), trade (34.6 percent), and finance, insurance and real estate (34.6 percent).<sup>2</sup>

#### Unemployment Rate

National financial trends and rising inflation rates began to have a significant impact upon Iowa's economy during the 1970's. This occurred despite the fact that historically, Iowa's strong agricultural base and industrial diversity have somewhat isolated the state's economy from fluctuation in the national economy.<sup>3</sup>

A significant portion of the state economy is directly related to agriculture, but other sectors (e.g., service and trade industries and a strong finance, insurance and real estate sector) are less directly related to agriculture

---

<sup>1</sup>Job Service of Iowa, "1980 Annual Planning Information," p. 1.

<sup>2</sup>Job Service of Iowa, "1980 Annual Planning Information," p. 1.

<sup>3</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1979," (Des Moines: State of Iowa, February 1978), p. 1.



and are major contributors to the state's diversity. The strength of Iowa's economy was illustrated in 1975 when the national unemployment rate averaged 8.5 percent, and Iowa's rate remained at about half that.<sup>1</sup>

In 1973, the Job Service of Iowa annual report stated:

the annual unemployment rate in Iowa has consistently remained lower than in the United States as a whole, and in most years has been quite significantly less...One reason for this fact is that the type of industry predominant in Iowa is less affected by cyclical influences than that of the nation as a whole...Another reason for Iowa's lower and less fluctuating unemployment rate is related to its agricultural orientation. Iowa has consistently lost rural population, one factor in this respect which relates to unemployment is that workers displaced from the farms (which has been a gradual process--rather than sudden or fluctuating), have migrated to urban centers sometimes out of state, and found jobs, rather than remaining in their previous place of residence and swelling the ranks of the unemployed. On the other hand, in more industrialized states there has been a greater tendency for laid-off workers to remain<sup>2</sup> unemployed while waiting for recall to their jobs.

The unemployment rate in the state of Iowa trailed the national rate during the decade of the 1970's, as seen in the following information taken from a chart of Iowa and United States Labor Force Summaries, 1970-1980:<sup>3</sup>

---

<sup>1</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1979," p. 1.

<sup>2</sup>Job Service of Iowa, "Annual Manpower Planning Report, Fiscal Year 1974," (Des Moines: State of Iowa, February 1973), p. 28.

<sup>3</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," p. 10.

	<u>Rate of Unemployment</u>	
	<u>Iowa</u>	<u>U.S.</u>
1970	3.3%	4.9%
1971	3.5%	5.9%
1972	2.8%	5.6%
1973	2.9%	4.9%
1974	3.0%	5.6%
1975	5.8%	8.5%
1976	5.3%	7.7%
1977	4.4%	7.0%
1978	3.8%	6.0%
1979	3.4%	5.8%
1980*	4.8%	7.1%

By 1981, the state of Iowa's unemployment rate was less than 1 percent behind the national average (6.9 percent in Iowa compared to 7.6 percent for the United States as a whole).<sup>1</sup> Like the nation, Iowa experienced problems caused by high interest rates, stockpiling inventories, and decreased sales. Employment in the construction trades dropped sharply as did employment in durable goods industries. Nondurable goods manufacturing showed less of a decline, with the exception of meat products in the food industry. The fields of transportation, trade, services and government also demonstrated significant declines in

---

<sup>1</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1983," State of Iowa, June, 1982, p. 12.

employment. The only industry group which continued to grow steadily since the 1950's without a decline in the late 1970's or early 1980's was that of finance, insurance and real estate.<sup>1</sup>

#### Rural/Urban Population Balance

Iowa's people are spread over 57,000 square miles of land which is divided into ninety-nine counties. The largest cities which have been designated as Standard Metropolitan Statistical Areas are Des Moines (the capital city), Cedar Rapids, Davenport, Sioux City, Waterloo, Dubuque and Council Bluffs.<sup>2</sup>

Only 5 percent in 1850, the urban population has grown constantly both in absolute numbers and as a percent of the total population. With the exception of the 1900-1910 decade, a growing urban population more than offset a rural decline allowing a modest overall population advance...

A declining rural population met a rising urban population in 1954 and Iowa became urban oriented...The continuing shift toward the urban centers is occurring at the rate of about 5 percent for each decennial period...

A further decline in rural population can be expected for at least a few more decades. Total population, nevertheless, will continue to increase but perhaps at a declining rate. Iowa's overall percentage increase in population has trended downward over the years reaching a low

---

<sup>1</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1983," p. 12.

<sup>2</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1983," p. 2.

of 2.4 percent for the 1960-70 period--next to the loss of 0.6 percent for the 1900-1910 decade.<sup>1</sup>

By the late 1960's the population shift from the rural areas into the cities and declining birth rates began to change the orientation of Iowa's families. Rural counties continued to lose their people while suburbs and small communities within commutable distance to the large cities grew significantly. By 1970, 58.6 percent of Iowa's population was living in urban areas, following the nationwide trend towards increased urbanization.<sup>2</sup>

#### Population Trends by Age

Iowa's population trends have traditionally differed from those of the country as a whole. Iowa's percentage of persons age sixty-five or older has traditionally been very high. In 1960, 11 percent of the total population was in this age group, the highest percentage in any state. Between 1960 and 1968, the number of children age five and under declined 20.9 percent in Iowa, contrasted with a national average decline of 8.9 percent. The group of young persons aged five to fifteen grew by 7.1 percent during this time as compared to an increase of 19.1 percent

---

<sup>1</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1983," p. 6.

<sup>2</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1979," p. 7.

nationally. A 10 percent disparity between Iowa's percentages and those of the United States as a whole existed in all other groups.<sup>1</sup>

In 1970, the median age of Iowans was 28.8 years while the national median age was 28.3. This difference was reflective of both the large number of older persons in the state and their increasingly long lifespan, and the movement of young adults out of the state. However, between 1970 and 1980, the age groups of persons born during the post-war baby boom grew significantly, 24.3 percent of those twenty to twenty-four years of age, and 15 percent for those aged twenty-five to twenty-nine and thirty to thirty-four.<sup>2</sup>

Such changes in the composition of various age groups have a noticeable impact on the composition of the labor force. For example, in 1970, 9.1 percent of the total work force was comprised of youth workers (aged sixteen to nineteen). By 1982 that percentage had risen to 11.7 percent. The percentage of youth who are in the job market has also increased, from 58.3 percent in 1970 to 74.5 percent in 1982.<sup>3</sup>

---

<sup>1</sup>Job Service of Iowa, "1970 Annual Manpower Planning Report," p. 3.

<sup>2</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1979," p. 11.

<sup>3</sup>Job Service of Iowa, "Labor Market Information for Special Worker Groups," (Des Moines: State of Iowa, October, 1981), p. 117.

Iowa Labor Force Participation of Youth (16-19)<sup>1</sup>  
1970 and 1982

	Total		Male		Female	
	<u>1970</u>	<u>1982</u>	<u>1970</u>	<u>1982</u>	<u>1970</u>	<u>1982</u>
Total:	58.3%	74.5%	63.9%	73.6%	52.9%	75.3%
White:	58.3	74.5	63.8	73.7	52.9	75.2
Black:	59.1	77.9	64.9	70.2	53.5	85.6
Other Races:	43.9	55.2	58.4	62.3	30.8	49.2

Population Trends by Sex

Iowa's population has also traditionally been composed of more females than males. In 1970, women accounted for 51.4 percent of the population and by 1980 that figure had risen to 51.6 percent. In 1983, there were almost 90,000 more females than males in the state.<sup>2</sup> At the same time, the proportion of women entering the job market had increased significantly, having a great impact on employment trends in Iowa.<sup>3</sup>

In 1970 nearly 50% of all women between ages 18 and 64 were in the labor force, an increase of 68% since 1960. The percentage of women in the labor force has risen in all age groups except for those 65 and over.

---

<sup>1</sup>Job Service of Iowa, "Labor Market Information for Special Worker Groups," p. 119.

<sup>2</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," p. 8.

<sup>3</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," p. 8.

The most significant increase between 1960 and 1970 was registered in the 25-34 age category. This is the age group containing the largest percentage of women with young children, and although the labor force participation rate in this group is still the lowest of any except the "65 and over" category, it is the one which has shown the greatest increase in labor force participation in recent years.<sup>1</sup>

Between 1970 and 1980, Iowa's population grew by 3.2 percent while the labor force increased by 28.5 percent. This disparity was partially caused by the creation of 219,000 nonagricultural jobs during the decade. Women joined the work force in record numbers as a result of several factors: social trends encouraging married women to work outside of the home, inflationary pressures, and the growing number of female heads of the family who were forced to work to support themselves.<sup>2</sup>

However, in 1975 the median income for women was less than half of that for men, due to a number of reasons such as the large number of women clustered in low paying jobs, more women than men working part-time or part of the year, and more women leaving and re-entering the job market. The trend toward greater educational training for women had begun to offset this phenomenon somewhat as women were becoming more career oriented and entering professional,

---

<sup>1</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1983," p. 18.

<sup>2</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," p. 9.

technical and managerial fields in greater numbers than ever before.<sup>1</sup>

#### Population Trends by Race and Ethnic Origin

Iowa's population is predominately white; the state ranked fourth in the percentage of the population made up of whites in 1970 and forty-eight in the percentage of minority residents.<sup>2</sup>

This fact is beginning to change somewhat as the decade between 1970 and 1980 saw the population of black residents increase by almost one-third. The largest increases in the number of blacks were recorded in the larger cities where black communities had already been established. The largest growth of black Iowans came in the categories under thirty-five years of age, and even the "school age" group demonstrated gains, contrary to the state trend for white residents.<sup>3</sup>

Members of other minority groups also began to settle in greater numbers in Iowa during the 1970's.

Between 1970 and 1980, the most notable change in the composition of the population of Iowa was the influx of great numbers of "other nonwhites" into the state. This was the direct result of the large number of Southeast Asian

---

<sup>1</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," p. 84.

<sup>2</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," p. 3.

<sup>3</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," p. 7.



refugees who were welcomed to Iowa in the aftermath of the Vietnam War. Because of the arrival of these new inhabitants, the "other nonwhite" population of the state more than tripled...The "other nonwhite" population of the Des Moines area increased by more than 80% during the decade.<sup>1</sup>

By 1978, Job Service of Iowa statistics reported that while nonwhites were twice as likely to be classified as economically disadvantaged, their participation in the labor market had increased dramatically since 1970 when only 31.1 percent were in the labor market, to 1978 when over 67 percent were employed.<sup>2</sup>

#### Implications of Workforce Change for the Vocational Counselor

The literature related to workforce change on both the national and the local level seems to indicate that radical change, on several levels, is taking place. Furthermore, the nature of these developments seems to indicate that the process of change will continue for the foreseeable future. What are the implications of these findings for individuals working in the vocational guidance and placement fields? To what extent are the old approaches useful, and to what extent must they be changed, modified or replaced?

---

<sup>1</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1982," p. 7.

<sup>2</sup>Job Service of Iowa, "Annual Planning Report, Fiscal Year 1978," State of Iowa, March 1977, p. 29.

In 1959, John Holland published his theory of vocational choice. The major theme of this philosophy was that each person is a product of the interaction of his/her heredity with a number of cultural and personal forces, including parents, peers, social class, American culture and the physical environment. As a result of this interaction, the individual develops a hierarchy of methods to use in dealing with environmental tasks. Holland intended that these coping methods were associated with different types of physical and social environments, and with different patterns of abilities. When a person makes a vocational choice, Holland theorized, he/she "searches" for situations which satisfy his or her hierarchy of needs.

Holland divided "all the major kinds of American work environments"<sup>1</sup> into six classes which he felt were helpful in organizing knowledge about vocational choice:

1. The Realistic Environment: Persons of this orientation are typified by...their physical strength and skills, their concrete, practical way of dealing with life problems, and their corresponding lack of social skills and sensitivities.
2. The Intellectual Environment: Persons of this orientation appear to be task-oriented people who generally prefer "think through" rather than "act out" problems...have marked needs to organize and understand the world...possess somewhat unconventional values and attitudes...and avoid interpersonal problems which require interpersonal relationships with groups of people.

---

<sup>1</sup>John Holland, "A Theory of Vocational Choice," Counseling Psychology, 6, No. 1 (1959), 35-45.

3. The Social Orientation: Persons of this orientation prefer teaching or therapeutic roles, which may reflect a desire for attention and socialization in a structured, and therefore safe, setting...possess verbal and interpersonal skills...are characterized as responsible, socially oriented...threatened by and avoid situations requiring intellectual problem-solving, physical skills or highly ordered activities, since they prefer to deal with problems through feeling and interpersonal manipulations of others.
4. The Conventional Environment: Persons of this class prefer structured verbal and numerical activities, and subordinate roles. They achieve their goals through conformity. In this fashion, they obtain satisfaction and avoid the conflict and anxiety aroused by ambiguous situations or problems involving interpersonal relationships and physical skills.
5. The Enterprising Environment: Persons of this class prefer to use their verbal skills in situations which provide opportunities for dominating, selling, or leading others...They avoid well-defined language or work situations as well as situations requiring long periods of intellectual efforts.
6. The Artistic Orientation: Persons of this orientation prefer indirect relationships with others. They prefer dealing with environmental problems through self-expression in artistic media...avoid problems requiring interpersonal interaction, a high degree of structuring or physical skills.<sup>1</sup>

Holland states that the level of choice within a given class of occupations is determined by an equal function of intelligence and self-evaluation. He defines self-evaluation as "a function of life history in which education, socio-economic origin, and family influences are

---

<sup>1</sup>Holland, pp. 143-45.

major determinations."<sup>1</sup> However, both the choice of occupational class and level of choice within the class were thought to be mediated by a series of personal factors including self-knowledge and evaluation, knowledge of occupational classes, the orderliness of the developmental hierarchy; and a series of environmental factors (pressures from family and peers, evaluation of employers) and limitations imposed by socio-economic resources and the physical environment.

Holland believed that as the individual develops, an order of preference for the six major environments is formulated. This preference may be well defined (one pattern dominating), ambiguous (two or more competing patterns), blocked (due to economic factors, employer rejection or other factors), stable or unstable (depending on the amount of integration of the interest pattern).<sup>2</sup>

James D. Wiggins undertook a study of the validity of Holland's theory and Holland's Vocational Preference Inventory (VPI) for persons of retirement age. Wiggins felt that such information would be valuable and noted that:

Documentation of the validity of Holland's theory and the VPI would enable counselors and researchers to better help clients seek

---

<sup>1</sup>Holland, p. 146.

<sup>2</sup>Holland, pp. 146-47.

part-time or full-time employment or find satisfying avocational activities. As counselors become increasingly aware of the need to help persons over a total career lifespan, the need for validated instruments and procedures is apparent.<sup>1</sup>

Wiggins sampled 102 retired secondary teachers with backgrounds in either vocational agriculture (Realistic/Social/Intellectual categories on the VPI), English (Artistic/Social/Enterprising categories on the VPI), history (Social/Intellectual/Conventional categories on the VPI), mathematics (Intellectual/Social/Enterprising categories on the VPI), or business (Conventional/Social/Enterprising categories on the VPI). The study was concerned with determining whether the VPI classifications held for older persons. Positive evidence of the construct validity of this scale had been previously found in over ninety studies.<sup>2</sup>

The author theorized that Holland's codes would generally match environmental classifications for the job areas studied, assuming that "persons who remain in a specific occupation until retirement generally were having their psychological needs met as delineated by Holland."<sup>3</sup> The results of the study were applied to the Compatibility

---

<sup>1</sup>Wiggins, p. 236.

<sup>2</sup>Wiggins, p. 237.

<sup>3</sup>Wiggins, p. 236.

Index (CI) which was used as a measure of congruence between the expected Holland codes and the actual results. A CI rating number (ranging from zero to eight with four as a midpoint) was assigned according to the match between a tested code and the environmental code.

Wiggins found the following:

Three of the groups studied had weighted codes that matched environmental codes exactly, one group had a code with primary and secondary letters matching in order, and the final group had all three letters from the environmental code included in the weighted code, but not in order. These findings generally mirror and lend credence to Holland's classification system and, by inference, to his theory.<sup>1</sup>

Wiggins went on to conclude that the VPI may be useful in both vocational and avocational career counseling with older persons, rather than relying on traditionally limited information. "If VPI results effectively describe personality types across the lifespan, such information may be useful in vocational and avocational counseling."<sup>2</sup>

Duane Brown, in his article "Emerging Models of Career Development Groups for Persons at Midlife," points to the great amount of attention now being paid to career guidance for adults at midlife. He states that this emphasis has grown out of a number of factors including "the women's struggle for equal rights and a growing concern for helping

---

<sup>1</sup>Wiggins, p. 241.

<sup>2</sup>Wiggins, p. 241.

women make the transition from housewife to worker and from underemployed worker to fully employed wage earner."<sup>1</sup>

Brown examines the models of counseling and guidance currently being used to deliver services to adults:

1. Self-Help Model consisting of books, tapes, cassettes and other materials designed to serve as do-it-yourself guides to career development;
2. Informational Model whereby assistance is offered by public and educational agencies in the form of hot lines, seminars and libraries of information;
3. Developmental Model pioneered by Super based on the dimensions of planfulness, exploration, information, decision-making and reality orientation;
4. Structured Group Model usually including "warm-up" exercises, self-analysis procedures, decision-making skills, becoming familiar with the world of work, and entering the world of work.<sup>2</sup>

Brown applied the following "arbitrarily drawn set of criteria" to each of the models:

1. Does the model allow for individual differences?
2. Is the approach/model ethical?
3. Does the model allow for the integration of other life roles with the work role? Is the model comprehensive?

---

<sup>1</sup>Brown, p. 332.

<sup>2</sup>Brown, p. 337.

4. Is the model based upon established theory and empirical data?<sup>1</sup>

He concluded that while no single model of midlife career development activity meets all of the criteria, the developmental model

...offers the most promise, particularly if ways can be discerned to integrate what is known about life and career development. It also seems at this point that the development of decision-making skills must be considered as an essential part of any program designed to serve adults at midlife since we want not only to help them deal with the present problem, but to cope with future concerns as well...Until we have models based on sound theories that have empirical support, we are probably well advised to offer multiple experiences to adults at midlife.<sup>2</sup>

Perceived change within the workforce in recent years, coupled with a heightened career awareness within the general population has brought about a concentration on the subject of career and life choices within the popular press.

In his book, The Three Boxes of Life (and How to Get Out of Them), Richard Bolles stated that life is normally conceptualized as three separate and distinct sections (boxes). They are "The World of Education, The World of Work and The World of Retirement."<sup>3</sup> According to Bolles, while The World of Work used to be viewed as occupying

---

<sup>1</sup>Brown, pp. 332-33.

<sup>2</sup>Brown, pp. 338-39.

<sup>3</sup>Richard Nelson Bolles, The Three Boxes of Life (Berkeley, CA: Ten Speed Press, 1978), p. 5.



most of the lifespan, the other two boxes--Education and Retirement--are getting longer and longer. Furthermore, the boxes are becoming increasingly isolated from each other. That is, little time is spent in planning for the transition from one box to another, and individuals in one period are not expected to participate very much in the activities of another period. For example, individuals in the Education period are not supposed to engage in much work or play (Retirement box), and vice versa.<sup>1</sup>

Bolles went on to state that one of the reasons why periods of life turn into boxes is that there are different issues and problems which must be considered during each period.

Like Maslow, Bolles developed a hierarchy of crucial issues which must be resolved in sequential order. They are "What's Happening?", "Survival," "Meaning or Mission," and "Effectiveness."<sup>2</sup> However, Bolles believes that these four issues must be reviewed during each life period, by ignoring them ("Drifting"),<sup>3</sup> experiencing them superficially or in depth. And further, the answers found for these issues while in one box will probably not resolve

---

<sup>1</sup>Bolles, pp. 5-10.

<sup>2</sup>Bolles, pp. 11-16.

<sup>3</sup>Bolles, p. 18.

the same problems when the individual moves onto another box of life. Since the prevailing institutions in each box (school systems, corporations, etc.) at best offer help for crucial issues in that time period, it is little wonder that the individual is ill prepared to move easily from one box to another, and that the boxes are so isolated from each other.<sup>1</sup>

Bolles' solution to the "Three Boxes of Life" involves recognizing the control which individuals maintain over their lives, becoming motivated to take charge, prioritizing goals and developing a "Life/Work Plan" or, as he prefers to call it, "Life/Work Design."<sup>2</sup> He suggested a better balance between education, work and leisure so that each plays an on-going and meaningful part in the individual's life--"Lifelong Education, Lifelong Work and Lifelong Leisure."<sup>3</sup>

Bolles cited a study done by the American Management Association of 2,821 executives which showed that

52 percent found their work unsatisfying, 50 percent have changed jobs in the last five years or are considering changing jobs and fields; 30 percent believe that business activities adversely affected their health during the preceding five years.<sup>4</sup>

---

<sup>1</sup>Bolles, pp. 19-23.

<sup>2</sup>Bolles, pp. 25-26.

<sup>3</sup>Bolles, pp. 30-45.

<sup>4</sup>Bolles, p. 305.

He also cited a quote by Myron Clark, past president of the Society for the Advancement of Management, that "80 percent of all American Workers are underemployed and hence dissatisfied."<sup>1</sup>

If Bolles' findings are correct, it would seem that individuals, especially in the latter half of the twentieth century, seemingly vary a great deal in terms of the emphasis that each individual places on certain work-related values.

Moshe Krausz examined the question "Do people at different vocational life stages differ with regard to the weights they attribute to different desired work values?"<sup>2</sup> In his article "Policies of Organizational Choice at Different Vocational Life Stages," Krausz theorized that the answer to this issue could be useful to organizations who employ people at various ages, to career counselors and possibly to job seekers themselves, "who often lack insight into the factors that determine their own decisions."<sup>3</sup>

Krausz surveyed 233 persons, most of whom were taking Master of Business Administration classes in Northern California. The sample included young persons ready to

---

<sup>1</sup>Bolles, p. 305.

<sup>2</sup>Krausz, p. 340.

<sup>3</sup>Krausz, p. 340.

search for a first professional job and others who were assumed to be considering or actively searching for a new position, either in their present place of employment or in a new organization. The respondents were divided into four groups: persons twenty-four years of age or less, persons aged twenty-five to thirty, persons aged thirty-one to thirty-four, and persons aged thirty-five or more. The research questionnaire consisted primarily of sixty brief passages in which hypothetical organizations were described in terms of six variables: starting salary, flexibility of work requirements, opportunities for growth and development, opportunities for advancement, responsibility and opportunities to participate in decision making and job security. Each description contained a specified combination of the six variables, each variable represented by one of five possible levels ranging from low to high. Respondents rated each description on a seven-step scale ranging from (1) "definitely do not want to join" to (7) "definitely do want to join."<sup>1</sup>

Krausz found that three values significantly differentiated between the age groups: security, advancement and flexibility. However, only security had an overall high weight within each life stage. Salary also had a high weight within each life stage but did not differentiate

---

<sup>1</sup>Krausz, pp. 341-43.

significantly between them. It was also found that the advancement and flexibility factors were more important to the younger respondents than the older ones, but that these factors lost importance with increasing age. The job security variable demonstrated the opposite trend, being more important to the older workers than to the younger ones.<sup>1</sup>

Krausz concluded with the following advice for career counselors:

It first seems that career counselors involved in counseling persons of different life stages should be aware of differences in saliency of outcomes when the client is searching for a job or an organizational change. Awareness of that fact may also be important for organizations employing persons at different life stages. The increased weight discrepancies across life stages may indicate lowered insight or increased use of defense mechanisms to deny certain realities that are undesirable to the person involved. Whatever the interpretation, the discrepancies between behavior intentions and explicit evaluations of outcomes may be incorporated into the dynamic counseling process.<sup>2</sup>

Herr and Cramer contended that: "Adults generally will have little tolerance for the abstract in career guidance and counseling. There is an immediacy, an urgency, and a concreteness to their concerns."<sup>3</sup>

---

<sup>1</sup>Krausz, pp. 344-45.

<sup>2</sup>Krausz, p. 347.

<sup>3</sup>Herr and Cramer, p. 245.

Lawrence J. Perfetti and William C. Bingham provide an excellent example of this urgency and concreteness of concerns, and one that is especially applicable during the early part of the 1980's as illustrated in their 1983 article "Unemployment and Self-Esteem in Metal Refinery Workers." The authors surveyed a large number of studies which had discussed the psychological impact of unemployment. The authors concluded that the subject is an important one.

Irrespective of country, social class, length of prior employment, family status, or age of the samples of unemployed workers studied, these investigators reached a common conclusion: unemployment has a negative influence on self-esteem.<sup>1</sup>

Perfetti and Bingham designed their study to test Super's theory regarding vocational self-concepts "in which the individual is seen as using occupational choice to implement important self-attributed traits and to seek self-actualization."<sup>2</sup> The authors then theorized that "Individuals who implement self-concepts through employment can be expected to manifest higher levels of self-esteem than those who do not."<sup>3</sup> They hypothesized that employed workers

---

<sup>1</sup>Lawrence J. Perfetti and William C. Bingham, "Unemployment and Self-Esteem in Metal Refinery Workers," The Vocational Guidance Quarterly, 31, No. 3 (1983), 195.

<sup>2</sup>Perfetti and Bingham, p. 196.

<sup>3</sup>Perfetti and Bingham, p. 196.

would score higher in self-esteem than would unemployed workers.

Participants for the study were selected from a metal refiners' union in New Jersey where all had been employed as skilled or semi-skilled workers in 1977. Thirty-four respondents were still employed, twenty had been laid off and twenty-three were re-employed, but not as refinery workers. The groups did not differ significantly in educational or marital status, or age. The Rosenberg Self-Esteem Scale (RSE) was chosen as the testing instrument because of the similarities between Rosenberg's and Super's definitions. Each participant was given the ten item RSE scale and a demographic questionnaire.

The authors found that their hypothesis was confirmed.

The finding that unemployed workers did indeed score lower in self-esteem than employed workers supports the hypothesis based on Super's theory. That re-employed workers scored between the other two groups is also consistent with the theory. To whatever extent level of self-esteem is associated with unemployment, it makes sense that re-employment offers opportunities to recover some portion of the lost self-esteem, even though vast individual differences may be evident in the amount of recovery. Presumably, re-employment in one's chosen or previously successful occupation may permit full recovery of lost self-esteem. Re-employment in a closely-related occupation may permit recovery of a substantial portion of the lost self-esteem. Employment of any kind, even in an occupation quite unrelated to one's preferences or talents, may permit recovery of at least a modicum of the lost self-esteem.<sup>1</sup>

---

<sup>1</sup>Perfetti and Bingham, p. 198.

In addition, Perfetti and Bingham found three implications which suggest areas for further study. The first is a distinction between employment and re-employment (work at other than an individual's original type of work). The study showed that re-employed workers do not necessarily regain all of their lost self-esteem when they return to work. Failure to implement important self-perceptions may be responsible for this difference and over time may result in job dissatisfaction. The authors suggest that counselors recognize this phenomenon and counsel their unemployed or re-employed clients accordingly so that they may be prepared for the decrease in self-esteem and take steps to alleviate it.

The second implication of the research concerns self-blaming behavior. Previous studies have found that the unemployed tend to blame themselves for their situation. The authors suggest that counselors can help their clients by assisting them in sorting out stress factors which are under their control. Support groups, even prior to unemployment (when possible) are also discussed as a means of avoiding negative consequences.

A third implication of this research concerns the effect of unemployment upon other family members. The shifting of roles and role dysfunction have been found to cause severe problems for spouses and children of unemployed persons. Perfetti and Bingham suggested intervention



before the family situation deteriorates significantly due to the stress of unemployment.

In 1969, Rashelle Axelbank, in her work done for the National Council on Aging, which concerned employment issues of adults, pointed out that the 1963 President's Council on Aging made the following recommendations:

services for older workers in the local offices of the public employment service be improved and expanded by providing additional counseling and for organization of new job-finding community activities in their behalf.

Studies conducted by the U.S. Employment Service show that about one-fourth of unemployed older workers are in need of intensive counseling service in order to make sound choices of new occupations and to overcome lack of self-confidence, reluctance to enter training, and other obstacles to preparing for and finding new employment. Yet only 7 percent of the two million job applicants age 45 and over who come to the USES offices each year now receive intensive counseling.

New and more positive approaches are needed to reach older persons who are seeking work and to organize community support for programs to improve their employment opportunities. Group guidance sessions, self-help organizations, of older persons, and other<sup>1</sup> tested techniques should be put into wider use.

Twenty years later, these recommendations still sound valid and applicable, which may serve only to illustrate that recognition of a need is only the first step in the process necessary to bring about a solution.

---

<sup>1</sup>Rashelle G. Axelbank, Employment of the Middle-Aged Worker (New York: The National Council on Aging, 1969), pp. 220-21.

### Summary

The current indicators used by social scientists and others who observe changes in a nation's population generally seem to indicate, that the makeup of the United States population is going through some rather major changes, and that these changes will continue for some time to come. Factors such as declining birth rates and a longer expected life span greatly effect the percent of individuals who make up each of the various age-range categories. Add to this the larger percentage of women who are working outside of the home, the changing attitudes toward the concept of lifetime careers, the effect of new technologies on new and on current workers, the increased numbers of minority group members seeking out advanced education for the purpose of career advancement, and it seems only logical to assume that as the makeup of a nation's population changes, so too are there changes in that nation's work force.

As the nation's population becomes older, it is predictable that a new concentration of interest will be found centering around the special needs and interests of adults.

In relation to career behavior, this new and enthusiastic interest in adults is evidenced by the creation of various committees, commissions, and special interest groups within professional organizations, by a rapidly increasing number of articles relating to adult career behavior, and by new legislation.

Indeed, the language applied to the career development and behavior of adults reflects these popular concerns. Terms like "career menopause" or "career climacteric" are used with an

assurance that is in direct contrast to the reality of what is actually known about the important changes that may occur in adult career behavior.<sup>1</sup>

The whole concept of occupation and career is one of dynamic and rapid change. Technology alone changes the list of career opportunities each year.

Individuals who are involved in providing career guidance at whatever level must be more than just aware of the changes that are taking place, they must be able to adapt.

Career guidance is an old tool, and some would say that it has changed very little over the years. To what extent the old concepts, theories, and approaches are still valid cannot totally be known unless counselors are aware of who is receiving these services. If career guidance is to be a useful instrument of human development, then it must not move ahead of, nor lag behind, the changes taking place within the population it is to serve.

---

<sup>1</sup>Herr and Cramer, p. 233.

## CHAPTER THREE

### Research Design and Methodology

#### General Design

##### Introduction

Data for this study were collected with the assistance of Job Service of Iowa's Research and Analysis Department. Personnel in this area are responsible for the collection, computerization, and analysis of information gathered by local Job Service offices.

Each applicant for job referral assistance is asked a set of standardized questions by a Job Service interviewer. Utilizing the form No. 511A (sample in Appendix), the interviewer records applicant responses which are later key-punched and fed into a centralized computer system for storage and record-keeping purposes. At the end of each quarterly period, Job Service's administrative staff releases a microfiche compilation of the information gathered from the 511A form on each applicant during that time frame.

##### Variables Used in Study

Data from the first quarter of the federal fiscal year, October 1 through December 31, were used in this

study in order to have the first possible tabulation of data for each year. The variables chosen for inclusion in this study were most of those which were available for the years covered by this study. Responses from the 511A form were first computerized in 1970. However, during the period 1970-1977, only age and sex variables were placed in the computer bank for record keeping purposes.

Beginning in 1978, most of the variables from the 511A form were computerized. The variables deemed significant for the purposes of this study were occupational choice, age, sex, race, and work status at the time of application. In 1981 and 1982, the work status variable was no longer computerized so that data were not available for that two-year period.

#### Population and Sample

The population for this study consisted of all persons over the age of sixteen (Iowa's minimum legal working age) during October, November and December of 1970, 1975, 1978, 1979, 1980, 1981 and 1982. The sample was comprised of all persons who applied for assistance in securing employment through a Job Service office in Iowa during that same three-month period in each of the above years.

Job Service of Iowa was created in 1934 when the Iowa General Assembly legislated a statewide employment service for all Iowa workers. This act followed a 1933 federal law which mandated that each state form an employment service

system based on national standards.

Job Service of Iowa now has six divisions: Job Placement, Job Insurance, Administrative Services, Legal Services, Staff Services and Retirement Services. Primary funding for administrative services comes from the United States Department of Labor with other financing from CETA prime sponsors, state appropriations, other state agencies and from penalty and interest collected on delinquent state job insurance taxes.<sup>1</sup> All job placement services are free and available to all persons without regard to race, age, sex, religious preference, physical or mental handicap, or nationality.

All Job Service offices in Iowa were used for this study. Prior to 1983, when the data were collected, Job Service offices were located in Adel, Albia, Algona, Ames, Arnolds Park, Atlantic, Audubon, Boone, Burlington, Carroll, Cedar Falls, Cedar Rapids, Centerville, Chariton, Charles City, Cherokee, Clarinda, Clarion, Clinton, Corning, Council Bluffs, Creston, Davenport, Decorah, Denison, Des Moines (3), Dubuque, Eagle Grove, Emmetsburg, Estherville, Fairfield, Forest City, Fort Dodge, Fort Madison, Glenwood, Grinnell, Guthrie Center, Hamburg, Harlan, Humbolt, Independence, Iowa City, Iowa Falls, Jefferson, Keokuk, Knoxville, LeMars, Manchester, Maquoketa, Marshalltown,

---

<sup>1</sup>Job Service of Iowa, "Annual Report, Fiscal Year 1980," (Des Moines: State of Iowa, 1980), pp. 5-6.

Mason City, Missouri Valley, Monticello, Mount Pleasant, Muscatine, New Hampton, Newton, Oakland, Oelwein, Osceola, Oskaloosa, Ottumwa, Perry, Pocahontas, Red Oak, Sheldon, Shenandoah, Sigourney, Sioux Center, Sioux City (2), Spencer, Storm Lake, Washington, Waterloo, Waverly, and Webster City. These offices are located throughout the state and provide the populace with convenience in utilization of the services offered.

#### Procedure for Identifying Sample

The sample for this study was identified with assistance from the Research and Analysis Department of Iowa's Job Service Administrative Unit. Data concerning the individuals who comprised this sample were collected from each of the branch offices of Job Service where the subjects applied for services and were gathered on a quarterly basis by personnel in the Research and Analysis Department. Personal identification of the applicants was not made. Rather, characteristics useful to the study were identified and analyzed by computer.

#### Data and Instrumentation

The data for this study were collected by utilization of a federally created form, No. 511A, specifically designed for use by Job Service offices. Each individual applying for job referral assistance was assigned to a trained Job Service interviewer who asked the applicant each of the

questions on the form. The interviewer then recorded the responses on the 511A form, coding them where appropriate. In this manner, information concerning all Job Service applicants was gathered and recorded in a standardized fashion.

The 511A form contains questions about the applicant's personal characteristics, work history, educational background, financial status, qualifications for employment, desired job goal and participation in federal and state programs.

Beginning in 1970, applicant responses to questions about age and sex were compiled from completed 511A forms, entered into a computer and tabulated for each quarter of the year. By 1978, categories of information computerized from the 511A form had been expanded to include sex, work status at the time of application for services, race, veteran's status, age, economic status and occupational preference. As a consequence, data gathered in 1978, 1979, 1980, 1981 and 1982 lent itself to a comparison of the occupational preference variable with the other computerized categories.

In order to test the hypotheses of this study, the variables of sex, work status at the time of application for services, age and race were chosen for analysis. The occupational choice category was included in order to study specific groups such as women seeking processing



jobs or Blacks seeking positions in the structural occupations.

The variable of sex was included in order to observe changes in patterns such as participation in traditional versus nontraditional occupations by males and females. Age was included as a variable in order to study changes in the age range of individuals seeking assistance as well as the possible differences between different age groups and the types of occupational positions they are seeking.

Work status at the time of application for services was included as a variable in order to allow observation and comparison of individuals who may be fully employed but choose to make an occupational change, with individuals who are forced through lay-offs, plant or business closings, firings, etc., to seek new employment. Race was selected as a variable in order to determine whether or not minority group members were changing in terms of the occupations they were seeking. Also, this variable allowed investigation into the subject of whether or not certain occupational categories had disproportionate numbers of various racial groups.

In 1981 and 1982, the work status variable was not computerized so that category was not available for purposes of comparison in those years. Responses to this question were not always recorded in 1978, 1979 and 1980 so the sample for this variable was slightly smaller than those

for the other variables.

### Analysis of the Data

Data gathered by local Job Service offices in Iowa were procured from the Job Service Research and Analysis Department. These data were classified, tabulated, key punched and analyzed by computer. In order to test the null hypotheses, the TUSTAT Statistical Contingency Test was performed on each of the seven hypotheses. This specific test, a variation of the basic Chi Square test for significance, was chosen for its ability to analyze several variables at the same time. In this manner, changes in variables such as age, sex, race and work status were tested for significance with data from one to nine categories over a period of years.

In turn, this data generated nine different results within the hypotheses which contained nine occupational categories. A nondirectional alpha value of .01 was selected as the level of significance on which to base the acceptance or rejection of the null hypotheses. On this basis, a null hypothesis which was rejected would have a one in a hundred chance of actually occurring by chance and therefore not being statistically significant.

In addition to the test for significance, percentile and frequency changes over time were calculated by the researcher. The raw data and statistical tests are displayed in tabular form. Some qualitative data are presented in narrative form.

## CHAPTER FOUR

### Findings

It was proposed, through a series of null hypotheses detailed in Chapter Three, that for the years 1970-1982, there would be major shifts in the characteristics of persons seeking job-referral assistance through Job Service of Iowa.

The findings of this study illustrate the fact that such changes in the demographic characteristics of persons seeking job-referral assistance through Job Service of Iowa have indeed occurred. Moreover, there have been significant alterations in the patterns of occupational choice within specific groups of persons, such as women, Blacks, persons age twenty-two and under, and persons who are employed at the time of application. Further, there have also been large changes in the actual numbers of persons who have turned to Job Service of Iowa for assistance during the period of time covered by this study, 1970-1982.

Null Hypothesis 1: There was no significant change in the proportion of males and females seeking job-referral assistance through Job Service of Iowa between the years 1970 and 1982.

The null hypothesis was rejected on the basis of TUSTAT Statistical Contingency tests which demonstrated that there have been changes, noted in Table 1, at the .01 level. In fact, this test yielded a score which was significant beyond the .001 level in the proportional change of males vs. females applying for services with Job Service of Iowa. The actual number of male and female applicants, for the first quarter of each fiscal year are detailed in the table. Also noted in the table are the expected frequencies (i.e., the number that would have been expected had there been no significant change in the proportion of male vs. female applicants) and percentages for males and females seeking assistance. The total number of applicants for the first quarter of each fiscal year included in the study was 233,914, 54.5 percent, and the total number of female applicants was 195,205, 45.5 percent, for a combined total of 429,119 persons.

It is interesting to note that while the percentage of males and females seeking assistance in 1970 (males, 61.6 percent; females, 38.3 percent) is almost exactly the same ratio as that found in 1982 (males, 61.1 percent; females, 38.8 percent), the intervening years showed marked fluctuations. Between 1970 and 1975, the number of female applicants increased by 148 percent, while the number of male applicants increased only by 33 percent. However, between 1975 and 1980 the number of females increased by

Table 1

Job Service of Iowa Referrals, 1970 through 1982, by Sex of Client

	1970	1975	1978	1979	1980	1981	1982
Male							
N	15,416	N = 20,483	N = 29,548	N = 37,799	N = 45,553	N = 40,113	N = 45,002
Fe	13,638	Fe = 24,247	Fe = 31,661	Fe = 40,330	Fe = 44,053	Fe = 39,937	Fe = 40,148
%	61.6	% = 46.2	% = 50.8	% = 51.0	% = 56.3	% = 54.7	% = 61.1
Female							
N	9,603	N = 23,815	N = 28,535	N = 36,187	N = 35,263	N = 33,152	N = 28,650
Fe	11,381	Fe = 20,151	Fe = 26,422	Fe = 33,656	Fe = 36,763	Fe = 33,328	Fe = 33,504
%	38.3	% = 53.7	% = 49.1	% = 48.9	% = 43.6	% = 45.2	% = 38.8

N = Number in Sample; Fe = Frequency Expected;  $\chi^2 = 3,795.12$ ; P .001

only 48 percent while the number of male applicants increased by 122 percent. Between 1980 and 1982, the last year included in the study, the number of females actually decreased by 19 percent while the number of males decreased by only 1 percent.

Consequently, the twelve-year period of the study began and ended with an almost identical ratio of male versus female applicants, despite the fact that the actual numbers of persons in both groups increased dramatically. Also, during the two-year period of 1978 and 1979 there were almost equal numbers of males and females seeking assistance.

Null Hypothesis 2: There was no significant change in the proportion of males and females seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1982 with employment goals in the following occupational categories:

- Professional/Technical/Managerial Occupations
- Clerical and Sales Occupations
- Service Occupations
- Agricultural, Fishery, Forestry and Related Occupations
- Processing Occupations
- Machine Trade Occupations
- Benchwork Occupations
- Structural Occupations
- Miscellaneous Occupations

The null hypothesis was rejected on the basis of the TUSTAT Statistical Contingency tests which demonstrated that in each of the nine occupational categories listed there was a significant change in the proportion of males and females seeking assistance during the years 1978 to

1982. In each of the nine occupational categories, the Chi Square value was found to be significant at the .01 level. In fact, in eight of the nine categories (the exception being structural occupations) the TUSTAT Statistical Contingency test yielded a Chi Square value which was significant even beyond the .001 level.

The results of the tests for significance in each of the nine occupational categories are as follows:

1. Professional/Technical/Managerial Occupations--  
Chi Square value of 139.909 with 4 degrees of freedom--significant beyond the .001 level.
2. Sales and Clerical Occupations--Chi Square value of 187.514 with 4 degrees of freedom--significant beyond the .001 level.
3. Service Occupations--Chi Square value of 256.566 with 4 degrees of freedom--significant beyond the .001 level.
4. Agricultural/Fishery/Forestry and Related Occupations--Chi Square value of 58.6529 with 4 degrees of freedom--significant beyond the .001 level.
5. Processing Occupations--Chi Square value of 166.951 with 4 degrees of freedom--significant beyond the .001 level.
6. Machine Trade Occupations--Chi Square value of 111.068 with 4 degrees of freedom--significant

beyond the .001 level.

7. Benchwork Occupations--Chi Square value of 428.178 with 4 degrees of freedom--significant beyond the .001 level.
8. Structural Occupations--Chi Square value of 14.3953 with 4 degrees of freedom--significant at the .01 level.
9. Miscellaneous Occupations--Chi Square value of 276.152 with 4 degrees of freedom--significant beyond the .001 level.

Table 2 characterizes the proportional changes found in each of the occupational categories for males and females during the years 1978 through 1982.

The percentage of females seeking assistance during the period from 1978 through 1982 decreased in eight of the nine occupational categories. The exception was structural occupations, i.e., construction work, heavy manufacturing, etc., an area with a traditionally low percentage of female workers. Even areas traditionally dominated by females such as category number two, clerical and sales occupations, showed a 5 percent decrease.

Benchwork occupations, i.e., manual work with primarily sedentary conditions, an area which had a 70/30 percent female domination in 1978, showed the largest decrease, 17 percent. In general, these figures seem to be skewed, not by a drop in females seeking assistance, but by the



Table 2

Percentage Changes in Occupational Category Selection,  
by Sex, 1978 through 1982

Occupational Choice	Sex	1978	1979	1980	1981	1982
1. Professional/Technical/ Managerial	Female	48%	49%	44%	44%	40%
	Male	52%	51%	56%	56%	60%
2. Clerical/Sales	Female	81%	81%	79%	79%	76%
	Male	19%	19%	21%	21%	24%
3. Service	Female	74%	74%	71%	72%	66%
	Male	26%	26%	29%	29%	34%
4. Agricultural/Fishery/ Forestry and Related	Female	23%	28%	22%	20%	16%
	Male	77%	72%	78%	80%	84%
5. Processing	Female	28%	31%	26%	23%	19%
	Male	72%	69%	74%	77%	81%
6. Machine Trades	Female	19%	20%	16%	16%	14%
	Male	81%	80%	84%	84%	86%
7. Benchwork	Female	70%	67%	59%	58%	53%
	Male	30%	33%	41%	42%	47%
8. Structural	Female	4%	5%	4%	5%	4%
	Male	96%	95%	96%	95%	96%
9. Miscellaneous	Female	20%	17%	15%	15%	12%
	Male	80%	83%	85%	85%	88%

very large increase in the sheer number of males seeking assistance during the years 1978 through 1982. Table 2 shows that in the first quarter of 1978, 28,535 females sought assistance, while the number of males was just slightly higher at 29,548. In the first quarter of 1982, the number of females seeking assistance was 28,650, only 115 more than in the first quarter of 1978. The number of males seeking assistance during the first quarter of 1982 was 45,002, an increase of 15,454 more males than in the same quarter of 1978. Stated another way, there were 15,569 more individuals seeking help during the first quarter of 1982 than during the same quarter in 1978. All but 115 of those individuals were males.

The actual number of males seeking assistance in the first quarter of 1982, as compared with the first quarter of 1978 increased in all nine occupational categories. The percentage of males (as compared with females) seeking assistance increased in each of the occupational categories except structural occupations, a category which retained its 96/4 percent male domination.

Table 3 illustrates the frequency and percentage of male and female applicants for positions within the nine occupational choice categories for the five-year period covered from the first quarter of 1978 through the first quarter of 1982.

During the first quarter of 1978, 8.8 percent of the

Table 3  
Frequency and Percentage of Male and Female Applicants by Occupation, First Quarter of  
Fiscal Years, 1978-1982

Occupational Category Choice	1978		1979		1980		1981		1982	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Professional/ Technical/ Managerial	F = 2,527 %* = 8.8%	2,766 9.3%	3,161 8.7%	3,294 8.7%	2,940 8.3%	3,736 8.2%	2,895 8.7%	3,676 9.1%	2,575 8.9%	3,938 8.7%
Sales and Clerical	F = 10,681 % = 37.4%	2,493 8.4%	13,626 37.6%	3,120 8.2%	13,341 37.8%	3,535 7.8%	12,593 37.9%	3,372 8.4%	11,633 40.6%	3,722 8.2%
Service	F = 7,812 % = 27.3%	2,710 9.1%	10,048 27.7%	3,554 9.4%	10,213 29.0%	4,150 9.1%	10,698 32.2%	4,246 10.5%	8,009 27.9%	4,127 9.1%
Agricultural, Fishery, Forestry, and Related	F = 223 % = 0.78%	740 2.5%	383 1.0%	997 2.6%	289 0.82%	1,049 2.3%	239 0.72%	981 2.4%	189 0.65%	1,007 2.2%
Processing	F = 701 % = 2.4%	1,773 6.0%	1,085 2.9%	2,464 6.5%	967 2.7%	2,787 6.2%	920 2.7%	3,163 7.8%	833 2.9%	3,511 7.8%
Machine Trade	F = 637 % = 2.2%	2,667 9.0%	987 2.7%	3,842 10.1%	1,131 3.2%	6,048 13.3%	902 2.7%	4,703 11.7%	952 3.3%	5,924 13.1%
Benchwork	F = 3,591 % = 12.5%	1,528 5.1%	4,458 12.3%	2,230 5.8%	3,937 11.2%	2,727 6.0%	2,882 8.6%	2,114 5.2%	2,678 9.3%	2,356 5.2%
Structural	F = 315 % = 1.1%	6,718 22.7%	434 1.1%	8,355 22.1%	488 1.4%	10,724 23.5%	418 1.2%	8,778 21.8%	423 1.4%	10,548 23.4%
Miscellaneous	F = 2,048 % = 7.1%	8,153 27.5%	2,005 5.5%	9,943 26.3%	1,957 5.6%	10,797 23.7%	1,605 4.8%	9,080 22.6%	1,349 4.7%	9,896 21.9%
Totals	F = 28,535 % = 99.6%°	29,548 99.6%°	36,187 100.5%°	37,799 99.7%°	35,263 100.6%°	45,553 100.1%°	33,152 99.5%°	40,113 99.5%°	28,650 99.7%°	45,002 99.6%°

\*Percent of column total. °Does not equal 100.0% due to rounding error.

females seeking assistance from Job Service of Iowa were looking for positions in the professional/technical/managerial occupations. During the same period 9.3 percent of the males applying for services were looking for positions in the professional/technical/managerial occupations. These very similar male/female percentages within this occupational category remained essentially constant throughout the five-year period.

The percentage of females who were seeking positions within the clerical and sales occupations was 37.4 percent during the first quarter of 1978. Only 8.4 percent of all males applying for services during the same period were seeking positions in the clerical and sales occupations. The percentage of females seeking positions in this category increased gradually throughout the period.

During the first quarter of 1978, 27.3 percent of the females seeking assistance from Job Service of Iowa were looking for positions in the service occupations. During the same period, 9.1 percent of the males applying for services were looking for positions in the service occupations. These percentages held constant for both males and females throughout the five-year period. It seems important to note at this point that by combining only the clerical and sales occupations with the service occupations, 64.7 percent of all females seeking assistance during the first quarter of 1978 may be found. During the

first quarter of 1982, 68.5 percent of all of the females seeking job-referral assistance may be found within these same two occupational categories.

The percentage of males who were seeking positions within the agricultural, fishery, forestry and related occupations category was only 2.5 percent during the first quarter of 1978. Only 0.78 percent of all females applying for services during the same period were seeking positions in this occupational category.

While there was some increase in the actual numbers of individuals seeking positions in this category during the five-year period, all of this growth was found in the male group. During the first quarter of 1982, 2.2 percent of all males applying for assistance were seeking positions within the agricultural, fishery, forestry and related occupations category. Only 0.65 percent of females applying for services during the first quarter of 1982 were seeking positions in this occupational category.

Males seeking positions within the processing occupations increased their percentage of the total number of male applicants for all positions from 6.0 percent during the first quarter of 1978 to 7.8 percent during the first quarter of 1982.

The percentage of females who were seeking positions within the processing occupations remained below 3 percent during the first quarter of each of the five years, 1978

through 1982.

Males seeking positions within the machine trades occupations increased their percentage of the total number of male applicants from 9.0 percent during the first quarter of 1978 to 13.1 percent during the first quarter of 1982.

The percentage of females who were seeking positions within the machine trades category remained close to 3 percent during the first quarter of each of the five years 1978 through 1982.

During the first quarter of 1978, 12.5 percent of the females seeking job-referral assistance were looking for positions in the benchwork occupations. The percentage of females seeking positions within this occupational category dropped during each of the years 1979, 1980 and 1981. A low of 8.6 percent was recorded in 1981, and the first quarter figure for 1982 was 9.3 percent of the total number of women applying for services during that time.

The percentage of males who were seeking positions within the benchwork occupation category remained within the 5 percent to 6 percent range during the first quarter of each of the five years 1978 through 1982.

The percentage of males who were seeking positions within the structural occupations category remained close to the 22 percent to 23 percent range during the first quarter of each of the five years 1978 through 1982. The

percentage of females seeking positions within the same occupational category remained below 2 percent during the same period of time.

The percentage of males who were seeking positions within the miscellaneous occupations category decreased steadily throughout the five-year period. During the first quarter of 1978 this category represented 27.5 percent of the males seeking job-referral assistance from Job Service of Iowa. During the first quarter of 1982, only 21.9 percent of the males were seeking a position within this category.

Females seeking positions within the miscellaneous occupations category represented 7.1 percent of all female applicants during the first quarter of 1978. During the first quarter of 1982, females seeking positions within this occupational category represented only 4.7 percent of all female applicants.

Even with the decline in the percent of persons seeking positions with the miscellaneous occupations category, it is still important to note that by combining this category with the structural occupations category, it is possible to account for over 45 percent of all of the male applicants during the first quarter of 1982.

Thus, although fluctuations are noted when one views the data annually, traditional patterns of occupational and career choices remain relatively constant. Those jobs

that traditionally draw females continue to do so in the 1980's. Although one might be tempted to make inferences from these data, such efforts would not be scientifically justified.

Null Hypothesis 3: There was no significant change in the proportion of part-time workers, full-time workers, and unemployed workers seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1980 with employment goals in the following occupational categories:

- Professional/Technical/Managerial Occupations
- Clerical and Sales Occupations
- Service Occupations
- Agricultural, Fishery, Forestry and Related Occupations
- Processing Occupations
- Machine Trade Occupations
- Benchwork Occupations
- Structural Occupations
- Miscellaneous Occupations

The null hypothesis was rejected on the basis of TUSTAT Statistical Contingency tests which demonstrated a significant change in the proportion of part-time workers, full-time workers and unemployed workers in each of the nine occupational categories between the first quarter of the fiscal year in 1978, 1979, and 1980.

The Chi Square value for each of the nine categories was significant at the .01 level, the value chosen for this study. In eight of the nine categories, the Chi Square value found was significant even beyond the .001 level. The exception was the category of service occupations where the Chi Square level was found to be significant at the .01 level.



The hypothesis for this variable originally contained a fourth category of applicants, those on lay-off but subject to recall. However, this group could not be included in the statistical study due to the fact that the data for it were not consistently reported in all of the occupational categories by the Job Service interviewers.

The results of the TUSTAT Statistical Contingency tests for significance performed on each of the occupational categories for the variable of work status are:

1. Professional/Technical/Managerial Occupations--Chi Square value of 128.515 with 4 degrees of freedom--significant beyond the .001 level.
2. Sales and Clerical Occupations--Chi Square value of 188.953 with 4 degrees of freedom--significant beyond the .001 level.
3. Service Occupations--Chi Square value of 87.0125 with 4 degrees of freedom--significant beyond the .001 level.
4. Agricultural, Fishery, Forestry and Related Occupations--Chi Square value of 16.4177 with 4 degrees of freedom--significant beyond the .001 level.
5. Processing Occupations--Chi Square value of 61.1043 with 4 degrees of freedom--significant beyond the .001 level.

6. Machine Trade Occupations--Chi Square value of 206.844 with 4 degrees of freedom--significant beyond the .001 level.
7. Benchwork Occupations--Chi Square value of 71.2257 with 4 degrees of freedom--significant beyond the .001 level.
8. Structural Occupations--Chi Square value of 208.212 with 4 degrees of freedom--significant beyond the .001 level.
9. Miscellaneous Occupations--Chi Square value of 188.283 with 4 degrees of freedom--significant beyond the .001 level.

Job Service of Iowa kept the records of the work-status of its applicants only during the years 1978, 1979 and 1980. While this is a relatively short period of time, the data generated during these years do yield some interesting figures. Table 4 illustrates the fact that during the period of 1978 through 1980 there was an ever-increasing number of individuals seeking assistance through Job Service of Iowa offices. At the same time, the percentage of those individuals who were employed full-time at the time of application (i.e., those individuals who might be thought to represent voluntary career changes) was actually lower in 1980 than in 1978. The peak number both in number and in percentage of full-time workers applying for services, came in 1979.

Table 4  
Number of Job Applicants by Work Status

Year		Part-time	Full-time	Unemployed	Total No. for Year
1978	F=	2,656	5,738	36,931	45,325
	%*	5.9%	12.6%	81.5%	100.0%
1979	F=	3,739	8,772	51,764	64,275
	%*	5.8%	13.7%	80.5%	100.0%
1980	F=	3,430	5,821	59,064	68,315
	%*	5.0%	8.5%	86.5%	100.0%

\*Percentage of total for year.

The reasons for such an increase would be speculative since Job Service of Iowa does not maintain such information in record form.

During the three-year period in question, both the actual number and the percentage of applications coming from individuals who were unemployed at the time of application rose steadily and rather dramatically.

Eighty-one and one-half percent of the applicants for assistance in the 1978 sample were unemployed at the time of application, showing a clear majority of applicants falling into this category. The sample taken during the same period only two years later shows a jump to 86.5 percent of the applicants being unemployed.

Table 5 shows the occupational category being sought by individuals and their work status at the time of

Table 5

Work Status at Time of Application, 1978-1980

Occupational Category Choice		1978			1979			1980		
		Part- Time	Full- Time	None	Part- Time	Full- Time	None	Part- Time	Full- Time	None
Professional/Technical/ Managerial	F = %* =	239 5.4%	846 19.3%	3,302 75.3%	364 6.3%	1,240 21.3%	4,214 72.4%	313 5.1%	863 14.0%	4,965 80.9%
Sales and Clerical	F = % =	828 7.4%	1,597 14.4%	8,689 78.2%	1,147 7.6%	2,424 16.1%	11,502 73.3%	1,097 7.1%	1,685 10.9%	12,666 82.0%
Service	F = % =	637 7.2%	720 8.1%	7,524 84.7%	937 7.6%	1,167 9.4%	10,314 83.0%	882 6.7%	851 6.5%	11,435 86.8%
Agricultural, Fishery Forestry and Related	F = % =	31 4.7%	58 8.8%	567 86.4%	70 6.1%	130 11.4%	944 82.5%	63 5.5%	78 6.8%	1,002 87.7%
Processing	F = % =	65 3.5%	221 11.9%	1,577 84.6%	102 3.4%	360 12.1%	2,510 84.5%	88 3.0%	195 6.6%	2,651 90.4%
Machine Trade	F = % =	88 3.5%	471 18.6%	1,980 78.0%	138 3.5%	758 19.2%	3,056 77.3%	139 2.7%	501 9.7%	4,526 87.6%
Benchwork	F = % =	182 4.7%	493 12.8%	3,186 82.5%	249 4.3%	729 12.6%	4,809 83.1%	206 4.2%	403 8.1%	4,345 87.7%
Structural	F = % =	199 4.0%	533 10.8%	4,208 85.2%	234 3.2%	828 11.4%	6,182 85.3%	245 2.8%	504 5.7%	8,037 91.5%
Miscellaneous	F = % =	387 5.5%	799 11.3%	5,898 83.2%	498 5.1%	1,136 11.5%	8,233 83.4%	397 3.8%	741 7.0%	9,437 89.2%

\*Percent of year equals total.

application. For the sake of clarity, the category comprised of individuals who were laid-off but subject to recall was eliminated from the sample. The category is generally unstable in that the individuals comprising it may only be seeking temporary work and may even be recalled before seriously pursuing another work situation.

Table 5 illustrates the fact that three occupational choice categories consistently had the highest percentage of individuals who held full-time positions at the time of application for services. These categories were the professional/technical/managerial occupations, the machine trade occupations, and the clerical and sales occupations. In each of the occupational categories, both the actual number and the percent of applicants holding full-time jobs at the time of application hit the high point in 1979 and dropped off steeply in the 1980 sample.

Null Hypothesis 4: There was no significant change in the proportion of Whites, Blacks, Spanish-speaking persons, American Indians, and members of other minority groups seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1982 with employment goals in the following occupational categories:

- Professional/Technical/Managerial Occupations
- Clerical and Sales Occupations
- Service Occupations
- Agricultural, Fishery, Forestry and Related Occupations
- Processing Occupations
- Machine Trade Occupations
- Benchwork Occupations
- Structural Occupations
- Miscellaneous Occupations

The null hypothesis was rejected on the basis of the TUSTAT Statistical Contingency tests which demonstrated a significant change in the proportion of Whites, Blacks, Spanish-speaking persons, American Indians and members of other minority groups seeking job-referral assistance in eight of the nine occupational categories, between the first quarter of the fiscal year in 1978, 1979, 1980, 1981 and 1982.

The Chi Square value for eight of the nine categories was significant at the .01 level, the value chosen for this study. In all but one of the eight categories which demonstrated an acceptable level of significance, the Chi Square value exceeded significance at the .001 level. The category which did not meet the test for significance at the .01 level was that of agricultural, fishery, forestry and related occupations, the category with the fewest number of applicants. This category had the least number of applicants from each racial group. The Chi Square value for this category was significant at the .05 level, a value not acceptable by the standards of this study.

The results of the TUSTAT Statistical Contingency tests for significance performed on each of the occupational categories for the variable of race are as follows:

1. Professional/Technical/Managerial Occupations--  
Chi Square value of 40.2751 with 16 degrees of  
freedom--significant beyond the .001 level.

2. Clerical and Sales Occupations--Chi Square value of 54.5173 with 16 degrees of freedom--significant beyond the .001 level.
3. Service Occupations--Chi Square value of 132.072 with 16 degrees of freedom--significant beyond the .001 level.
4. Agricultural, Fishery, Forestry and Related Occupations--Chi Square value of 28.7556 with 16 degrees of freedom--not significant at the .01 level.
5. Processing Occupations--Chi Square value of 66.0166 with 16 degrees of freedom--significant beyond the .001 level.
6. Machine Trade Occupations--Chi Square value of 49.604 with 16 degrees of freedom--significant beyond the .001 level.
7. Benchwork Occupations--Chi Square value of 81.557 with 16 degrees of freedom--significant beyond the .001 level.
8. Structural Occupations--Chi Square value of 34.4053 with 16 degrees of freedom--significant at the .01 level.
9. Miscellaneous Occupations--Chi Square value of 45.6329 with 16 degrees of freedom--significant beyond the .001 level.

Information concerning race and ethnic origin was not available during the years 1970 through 1975. Therefore, for the purposes of this study the years 1978 through 1982 will be used to analyze changes in the racial/ethnic balance of persons seeking job-referral assistance through the state's Job Service offices.

Iowa's population is primarily White. It is therefore not surprising that Iowa's workforce is also primarily White. Numerically, White individuals making application for services during the first quarter of 1978 numbered 53,580 or 92.2 percent of the total number of applicants.

Table 6 demonstrates that the largest single increase in the total number of applicants came between 1978 and 1979 when the total went from 58,083 to 73,986, an increase of 15,903 applicants. The first quarter of 1980 showed the largest total number of applicants during the five-year period, 80,816. Of these, 74,514, or again, 92.2 percent were White. By the first quarter of 1982 White applicants numbered 68,904 or 93.5 percent of the total. At the same time, the percentage of Black applicants dropped from 5.7 percent during the first quarter of 1981 to only 4.1 percent during the first quarter of 1982.

Comparing the beginning of the five-year period with the end of the period, it can be seen that the number of White applicants has increased from 53,380 during the first quarter of 1978 to 68,904 during the first quarter of 1982.



Table 6

Number and Percentage of Applicants by Race, 1978-1982

No. Applicants By Race/ First Quarter Fiscal Year		White	Black	Spanish Surname	American Indian	Other	Total For Year (First Quarter)
1978	F=	53,580	3,249	631	248	371	58,580
	%*	92.2%	5.5%	1.0%	0.42%	0.63%	100%
1979	F=	68,222	4,002	849	315	597	73,986
	%*	92.2%	5.4%	9.1%	0.42%	0.80%	100%
1980	F=	74,514	4,264	884	328	826	80,816
	%*	92.2%	5.2%	1.0%	0.40%	1.0%	100%
1981	F=	67,213	4,193	789	286	769	73,265
	%*	91.7%	5.7%	1.0%	0.39%	1.0%	100%
1982	F=	68,904	3,060	723	215	727	73,652
	%*	93.5%	4.1%	0.98%	0.29%	0.98%	100%

\*Percentage of total for year.

This represents an increase of 22.2 percent, which is just slightly higher than the 21.1 percent increase in the total number of applicants. During the same five-year period, the number of Black applicants decreased from 3,249 during the first quarter of 1978 to 3,060 during the first quarter of 1982. This represents a 5.8 percent decrease in the number of Black applicants from the beginning of the five-year period to the end of it.

Table 7 illustrates the racial/ethnic breakdown of individuals applying for assistance in obtaining professional/technical/managerial positions through Job Service of Iowa during the first quarter of the years 1978 through 1982.

White applicants represented 93.8 percent of the applicants seeking professional/technical/managerial positions during the first quarter of 1978. Blacks represented only 4.7 percent of the applicants during the same period. By the first quarter of 1982, White applicants represented 95.4 percent of the total, while Blacks had declined to only 3.1 percent of the total. Throughout the five-year period, all others combined represented approximately 2 percent of the total number of applicants in this category.

Table 8 illustrates the racial/ethnic breakdown of individuals applying for assistance in obtaining clerical and sales jobs through Job Service of Iowa during the

Table 7

Applicants for Professional/Technical/Managerial Jobs by Race,  
First Quarter of the Fiscal Year 1978-1982

	White	Black	Spanish Surname	American Indian	Other	Total
1978	4,970	251	30	16	26	5,293
	93.8%	4.7%	0.56%	0.30%	0.49%	99.9%*
1979	6,070	259	44	26	55	6,455
	94.0%	4.0%	0.68%	0.40%	0.85%	99.7%*
1980	6,273	269	53	27	54	6,676
	93.9%	4.0%	0.79%	0.4%	0.8%	99.8%*
1981	6,207	264	34	19	47	6,571
	94.0%	4.0%	0.51%	0.28%	0.71%	99.5%*
1982	6,217	206	37	12	37	6,513
	95.4%	3.1%	0.56%	0.18%	0.56%	99.8%*

\*Does not equal 100% due to rounding error.

Table 8

Applicants for Clerical and Sales Jobs by Race,  
First Quarter of the Fiscal Year 1978-1982

	White	Black	Spanish Surname	American Indian	Other	Total
1978	12,300	681	95	35	63	13,174
	93.3%	5.1%	0.72%	0.26%	0.47%	99.85%*
1979	15,688	840	103	45	70	16,746
	93.6%	5.0%	0.61%	0.26%	0.41%	99.88%*
1980	15,754	889	111	46	76	16,876
	93.3%	5.2%	0.65%	0.27%	0.45%	99.87%*
1981	14,837	897	107	51	71	15,965
	92.9%	5.6%	0.67%	0.31%	0.44%	99.5%*
1982	14,544	627	83	31	57	15,355
	94.7%	4.0%	0.54%	0.20%	0.37%	100.18%*

\*Does not equal 100% due to rounding error.

first quarter of the years 1978 through 1982.

White applicants represented only 88.2 percent of the applicants seeking service positions during the first quarter of 1978. During the same period of time, White applicants represented 92.2 percent of the total number of applicants seeking all types of positions. Black applicants for service positions represented 9.0 percent of the total for the first quarter of 1978. Blacks represented only 5.5 percent of the total number of applicants seeking all types of positions during the same period. Black applicants seeking service occupations had decreased to 6.7 percent of the total by the first quarter of 1982.

Table 9 illustrates the racial/ethnic breakdown of individuals applying for assistance in obtaining agricultural, fishery, forestry and related occupational positions through Job Service of Iowa during the first quarter of the years 1978 through 1982.

White applicants represented 93.3 percent of the applicants seeking clerical and sales positions during the first quarter of 1978. Blacks represented only 5.1 percent of the applicants during the same period. By the first quarter of 1982, White applicants represented 94.7 percent of the total. Throughout the five-year period, all others combined, represented approximately 2 percent of the total number of applicants in this category.

Table 10 illustrates the racial/ethnic breakdown of

Table 9

Applicants for Agricultural, Fishery, Forestry and Related Occupations  
by Race, First Quarter of the Fiscal Year 1978-1982

	White	Black	Spanish Surname	American Indian	Other	Total
1978	921	25	14	0	3	963
	95.6%	2.5%	1.4%	0.0%	0.31%	99.81%*
1979	1,321	36	11	5	7	1,380
	95.7%	2.6%	0.79%	0.36%	0.50%	99.95%*
1980	1,271	27	18	2	20	1,338
	94.9%	2.0%	1.3%	0.14%	1.4%	99.88%*
1981	1,143	33	16	6	22	1,220
	93.6%	2.7%	1.3%	0.49%	1.8%	99.9%*
1982	1,137	25	9	5	20	1,196
	95.0%	2.0%	0.75%	0.41%	1.6%	99.7%*

\*Does not equal 100% due to rounding error.

Table 10  
Applicants for Service Jobs by Race, First Quarter of  
the Fiscal Year 1978-1982

	White	Black	Spanish Surname	American Indian	Other	Total
1978	9,284	947	138	56	94	10,522
	88.2%	9.0%	1.3%	0.54%	0.89%	99.93%*
1979	12,035	1,148	171	71	177	13,602
	88.4%	8.4%	1.2%	0.52%	1.3%	99.82%*
1980	12,635	1,264	157	71	236	14,363
	87.9%	8.8%	1.0%	0.49%	1.6%	99.79%*
1981	13,070	1,406	146	61	261	14,944
	87.4%	9.4%	0.97%	0.40%	1.7%	99.87%*
1982	10,908	825	128	41	233	12,136
	89.8%	6.7%	1.0%	0.33%	1.9%	99.73%*

\*Does not equal 100% due to rounding error.

individuals applying for assistance in obtaining service positions through Job Service of Iowa during the first quarter of the years 1978 through 1982.

The very high percentage of White applicants in this area is as would be expected. Likewise, the low percentage of Blacks seeking positions in this category is not surprising. The most notable change in this occupational category over the five-year period is the increase in numbers and percentages of the persons in the "others" category who have sought out positions in this occupational area. While the numbers are quite small, the growth from a low of three in 1978 to a high of twenty-two in 1981 is more than a 700 percent increase. Yet, these small numbers may be forming significance. The high number in "White" may be over-pulling power and forcing frequencies of larger size in the other cells.

Table 11 illustrates the racial/ethnic breakdown of individuals applying for assistance in obtaining a position in the processing occupations through Job Service of Iowa during the first quarter of the years 1978-1982.

While both the actual number and percentage of White applicants grew during the five-year period from 1978 through 1982, the highest percentage and actual number recorded in the first quarter of 1982 represented 90.5 percent of the individuals seeking positions in this category. This figure is substantially lower than the 93.5 percent



Table 11

Applicants for Processing Jobs by Race, First Quarter of  
the Fiscal Year 1978-1982

	White	Black	Spanish Surname	American Indian	Other	Total
1978	2,187	185	63	25	14	2,474
	88.3%	7.4%	2.5%	1.0%	0.56%	99.7%*
1979	3,134	245	123	23	24	3,549
	88.3%	6.9%	3.4%	0.64%	0.67%	99.9%*
1980	3,353	234	112	26	29	3,754
	89.3%	6.2%	2.9%	0.69%	0.77%	99.9%*
1981	3,699	204	107	20	45	4,083
	90.5%	4.9%	2.6%	0.48%	1.1%	99.6%*
1982	3,926	219	119	15	59	4,338
	90.5%	5.0%	2.7%	0.3%	1.4%	99.9%*

\*Does not equal 100% due to rounding error.

figure which represents the overall number of White applicants for all positions during the first quarter of 1982.

While the actual number of Blacks applying for positions within this category increased slightly, the percentage actually dropped from 7.4 percent in the first quarter of 1978 to 5.0 percent in 1982. Once again, during this five-year period individuals comprising the "others" category who applied for positions within the processing occupations, while representing only a very small minority, increased quite dramatically.

Table 12 illustrates the racial/ethnic breakdown of individuals applying for assistance in obtaining a position within the machine trades occupations through Job Service of Iowa, during the first quarter of the years 1978 through 1982.

The White domination of applicants within the machine trades occupations have exceeded the overall domination of Whites in each year of the five-year period. The percentage of Blacks applying for positions within the machine trades category is substantially lower than the overall applications by Blacks in each of the five years. Moreover, the percentage of Blacks applying for positions in this area decreased substantially over the five-year period.

Table 13 illustrates the racial/ethnic breakdown of individuals applying for assistance in obtaining positions within the benchwork occupations through Job Service of

Table 12

Applicants for Machine Trade Jobs by Race, First Quarter of  
the Fiscal Year, 1978-1982

	White	Black	Spanish Surname	American Indian	Other	Total
1978	3,084	139	42	10	28	3,303
	93.4%	4.2%	1.3%	0.3%	0.8%	100.0%
1979	4,525	194	61	11	38	4,829
	93.7%	4.0%	1.3%	0.2%	0.8%	100.0%
1980	6,828	200	77	13	61	7,179
	95.1%	2.8%	1.1%	0.2%	0.8%	100.0%
1981	5,292	183	57	14	58	5,604
	94.4%	3.3%	1.0%	0.2%	1.0%	100.0%
1982	6,576	171	60	9	57	6,873
	95.7%	2.5%	0.9%	0.1%	0.8%	100.0%

Table 13

Applicants for Benchwork Jobs by Race, First Quarter of  
the Fiscal Year, 1978-1982

	White	Black	Spanish Surname	American Indian	Other	Total
1978	4,703	288	58	21	49	5,119
	91.9%	5.6%	1.1%	0.4%	1.0%	100.0%
1979	6,076	400	93	26	93	6,688
	90.8%	6.0%	1.4%	0.4%	1.4%	100.0%
1980	6,005	400	74	27	158	6,664
	90.1%	6.0%	1.1%	0.4%	2.4%	100.0%
1981	4,491	300	67	21	115	4,994
	90.0%	6.0%	1.3%	0.4%	2.3%	100.0%
1982	4,611	224	64	13	131	5,043
	91.4%	4.4%	1.3%	0.3%	2.6%	100.0%

Iowa, during the first quarter of the fiscal years 1978-1982.

The percentage of Whites and Blacks applying for positions within the benchwork occupations during the first quarter of the years 1978 through 1982 stayed in close approximation to the overall figure for both racial groups applying for all types of positions during the same time period.

Again, the most substantial change within the applications came from the category defined as "others." This group increased from forty-nine applicants during the first quarter of 1978 (1 percent) to 131 applicants (2.6 percent) during the first quarter of 1982.

Table 14 illustrates the racial/ethnic breakdown of individuals applying for assistance in obtaining positions within the structural occupations through Job Service of Iowa, during the first quarter of the years 1978 through 1982.

The structural occupations were dominated by White applicants during the first quarter of each of the five years 1978 through 1982. Not only did the White domination increase over time, but in the first quarter of each year, the percentage of White applicants stayed ahead of the overall percentage of White applicants for all types of occupation categories. Conversely, the percentage of Black applicants for positions within the structural

Table 14

Applicants for Structural Jobs by Race, First Quarter of  
the Fiscal Year 1978-1982

	White	Black	Spanish Surname	American Indian	Other	Total
1978	6,663	219	63	45	43	7,033
	94.7%	3.1%	0.9%	0.6%	0.6%	99.9%*
1979	8,273	319	92	55	50	8,789
	94.1%	3.6%	1.0%	0.6%	0.6%	99.9%*
1980	10,600	362	113	53	84	11,212
	94.5%	3.2%	1.0%	0.5%	0.7%	99.9%*
1981	8,644	342	114	44	52	9,196
	94.0%	3.7%	1.2%	0.5%	0.6%	100.0%
1982	10,447	315	91	52	63	10,968
	95.2%	2.9%	0.8%	0.5%	0.6%	100.0%

\*Does not equal 100% due to rounding error.

occupations stayed below the overall percentage of Black applicants for all types of occupations during the first quarter of each year, 1978 through 1982.

Table 15 illustrates the racial/ethnic breakdown of individuals seeking positions with the miscellaneous occupations category through Job Service of Iowa, during the first quarter of the years 1978 through 1982.

Because of the eclectic nature of the occupational category referred to as miscellaneous occupations, it is not at all surprising that changes in the percentage participation among the various racial/ethnic groups roughly parallel the percentages observed when looking at the overall racial/ethnic breakdown taking place over the period between the first quarter of 1978 and the first quarter of 1982.

Null Hypothesis 5: There was no significant change in the proportion of persons who were age: less than twenty-two, twenty-three to forty-four, forty-five to sixty-four, or sixty-five and over seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1982 with employment goals in the following occupational categories:

- Professional/Technical/Managerial Occupations
- Sales and Clerical Occupations
- Service Occupations
- Agricultural, Fishery, Forestry and Related Occupations
- Processing Occupations
- Machine Trade Occupations
- Benchwork Occupations
- Structural Occupations
- Miscellaneous Occupations

Table 15

Applicants for Miscellaneous Jobs by Race, First Quarter of  
the Fiscal Year 1978-1982

	White	Black	Spanish Surname	American Indian	Other	Total
1978	9,468	514	128	40	51	10,201
	92.8%	5.0%	1.3%	0.4%	0.5%	100.0%
1979	11,100	561	151	53	83	11,948
	93.0%	4.7%	1.3%	0.4%	0.7%	100.1%*
1980	11,795	619	169	63	108	12,754
	92.5%	4.9%	1.3%	0.5%	0.8%	100.0%
1981	9,830	564	141	50	98	10,683
	92.0%	5.3%	1.3%	0.5%	0.9%	100.0%
1982	10,528	448	132	37	70	11,215
	93.9%	4.0%	1.2%	0.3%	0.6%	100.0%

\*Does not equal 100% due to rounding error.



The null hypothesis was rejected on the basis of the TUSTAT Statistical Contingency tests which showed a significant change in the proportion of persons in the four age cohorts across the nine occupational categories during the first quarter of the fiscal years of 1978 through 1982.

The Chi Square for each of the nine occupational categories was significant at the .01 level, the value selected for this study. In each of the nine categories, the level of significance actually exceeded that of the .001 level of significance.

The results of the TUSTAT Statistical Contingency tests for significance performed on each of the occupational categories for the variable of age are as follows:

1. Professional/Technical/Managerial Occupations--  
Chi Square value of 251.219 with 12 degrees of freedom--significant beyond the .001 level.
2. Sales and Clerical Occupations--Chi Square value of 1123.74 with 12 degrees of freedom--significant beyond the .001 level.
3. Service Occupations--Chi Square value of 619.387 with 12 degrees of freedom--significant beyond the .001 level.
4. Agricultural, Fishery, Forestry and Related Occupations--Chi Square value of 354.748 with 12 degrees of freedom--significant beyond the .001 level.

5. Processing Occupations--Chi Square value of 885.024 with 12 degrees of freedom--significant beyond the .001 level.
6. Machine Trade Occupations--Chi Square value of 1164.48 with 12 degrees of freedom--significant beyond the .001 level.
7. Benchwork Occupations--Chi Square value of 1016.52 with 12 degrees of freedom--significant beyond the .001 level.
8. Structural Occupations--Chi Square value of 2291.83 with 12 degrees of freedom--significant beyond the .001 level.
9. Miscellaneous Occupations--Chi Square value of 2009.79 with 12 degrees of freedom--significant beyond the .001 level.

Table 16 illustrates the age categories in which individuals seeking assistance fell at the time of making application for assistance. The table illustrates the actual numbers and the percentages of individuals falling into these categories from the samples for 1970, 1975, and 1978 through 1982.

The period in which the greatest amount of change took place was the period between 1979 and 1980. Within the category comprised of individuals age twenty-two and under, the group dropped from 22,109 in the 1979 sample to 15,210 in the 1980 sample. This represents a drop from 29.8 percent

Table 16

Frequency and Percentage Totals for Applicants by Age,  
1970-1982

Number of Applicants By Age		Age 22 or Less	Age 23-44	Age 45-64	Age 65 or Over	Total for Year: (1st Qtr. only)
1970	F =	6,746	13,784	4,489**		25,019
	% =	26.9%	55.0%	17.9%		
1975	F =	13,343	25,590	5,109	256	44,298
	% =	30.1%	57.7%	11.5%	0.57%	
1978	F =	16,379	34,262	6,932	510	58,083
	% =	28.1%	58.9%	11.9%	0.87%	
1979	F =	22,109	43,470	7,928	479	73,986
	% =	29.8%	58.7%	10.7%	0.64%	
1980	F =	15,210	55,936	9,285	385	80,816
	% =	18.8%	69.2%	11.4%	0.47%	
1981	F =	12,241	51,597	9,029	298	73,265
	% =	16.7%	70.4%	12.3%	0.54%	
1982	F =	10,823	52,138	10,221	470	73,652
	% =	14.6%	70.7%	13.8%	0.63%	

\*Percent of year equals total.

\*\*Categories combined for this year.

of the 1979 sample to only 18.8 percent of the 1980 sample.

During the same 1979 to 1980 period, the category comprised of individuals age twenty-three through forty-four increased from 43,470 to 55,936. This represents an increase from 58.7 percent of the 1979 sample to over 69 percent of the 1980 sample.

During the period from 1970 through 1982, the category comprised of individuals age twenty-two and under (at the time of application for services) decreased from a high of 30.1 percent of the 1975 sample to only 14.6 percent of the sample from 1982. During this same twelve-year period, the category containing persons age twenty-three through forty-four (at the time of application for services) increased from 55 percent of the 1970 sample to 70.7 percent of the sample from 1982. To an extent such changes are characteristic demographic shifts in the general population, although the figures reported by Job Service of Iowa are more dramatic.

The category comprised of persons who were age forty-five through sixty-four (at the time of application for services) doubled in terms of actual numbers during the period from 1975 through 1982. However, the percent of individuals seeking services who fell into this age category only increased from 11.5 percent of the 1975 sample to 13.8 percent of the 1982 sample. The category comprised of persons age sixty-five and over (at the time of

application for services) has continuously remained below 1 percent of the sample from 1975 through 1982. (In 1970, this age group was reported in the same group as those persons age forty-five through sixty-four so separate figures are not available for that year.)

Tables 17 through 20 show the age breakdown of these individuals seeking assistance in obtaining positions in each of the nine occupational categories over the period from 1978 through 1982. While Table 16 clearly illustrated a decline in the percent of younger applicants (age twenty-two and under) and an increase in the twenty-three through forty-four year old age group of applicants, Tables 17 through 20 show the occupational choice categories in which the different age-group populations were seeking employment.

Looking at the oldest age category first, the table illustrates that in the 1978 sample, the majority (54.5 percent) of individuals age sixty-five or over were seeking positions in two principle occupational categories. They were clerical and sales occupations (26.3 percent) and service occupations (28.2 percent). If one combines the five occupational categories that would seem to be the most physically demanding, agricultural, fishery, forestry and related; processing; machine trade; benchwork; and structural, the total percent of all five categories combined is only 22.7 percent of the 1978 sample.

Table 17

Frequency and Percentage of Occupational Preference, Age  
Twenty-Two or Less, 1978-1982

Occupational Category		1978	1979	1980	1981	1982
Professional/Technical/ Managerial	F =	407	504	310	302	250
	% =	2.5	2.3	2.0	2.5	2.3
Sales and Clerical	F =	3,463	4,626	3,229	2,804	2,470
	% =	21.1	21.0	21.2	22.9	22.8
Service	F =	3,454	4,682	3,741	3,682	3,016
	% =	21.1	21.2	24.6	30.1	28.0
Agricultural, Fishery, Forestry & Related	F =	531	824	513	442	362
	% =	3.2	3.7	3.4	3.6	3.3
Processing	F =	639	1,038	635	428	379
	% =	3.9	4.7	4.2	3.5	3.5
Machine Trade	F =	849	1,329	919	656	617
	% =	5.2	6.0	6.0	5.4	5.7
Benchwork	F =	1,240	1,869	964	568	582
	% =	7.6	8.5	6.3	4.6	5.4
Structural	F =	2,218	2,860	2,010	1,278	1,243
	% =	13.5	12.9	13.2	10.4	11.5
Miscellaneous	F =	3,578	4,377	2,889	2,081	1,894
	% =	21.9	19.8	19.0	17.0	17.6
Totals		100.0%	100.0%	100.0%	100.0%	100.0%

\*Percent of column.

Table 18

Frequency and Percentage of Occupational Preference, Age  
Twenty-Three to Forty-Four, 1978-1982

Occupational Category		1978	1979	1980	1981	1982
Professional/Technical/ Managerial	F = 4,064 %*= 11.9	5,027 11.6	5,282 9.4	5,197 10.1	5,066 9.7	
Sales and Clerical	F = 7,804 % = 22.8	9,902 22.8	11,381 20.4	11,042 21.4	10,416 20.0	
Service	F = 5,467 % = 16.0	6,940 16.0	8,471 15.1	9,075 17.6	7,102 13.6	
Agricultural, Fishery, Forestry & Related	F = 323 % = 0.9	452 1.0	674 1.2	674 1.3	681 1.3	
Processing	F = 1,566 % = 4.6	2,189 5.0	2,750 4.9	3,090 6.0	3,357 6.4	
Machine Trade	F = 2,097 % = 6.1	3,038 7.0	5,538 9.9	4,282 8.3	5,423 10.4	
Benchwork	F = 3,175 % = 9.3	4,126 9.5	5,049 9.0	3,890 7.5	3,820 7.3	
Structural	F = 4,180 % = 12.2	5,248 12.1	8,224 14.7	6,927 13.4	8,338 16.0	
Miscellaneous	F = 5,586 % = 16.3	6,548 15.1	8,567 15.3	7,420 14.4	7,935 15.2	
Totals		100.0%	100.0%	100.0%	100.0%	100.0%

\*Percent of column.

Table 19

Frequency and Percentage of Occupational Preference, Age  
Forty-Five to Sixty-Four, 1978-1982

Occupational Category		1978	1979	1980	1981	1982
Professional/Technical/ Managerial	F = %*=	783 11.3	900 11.4	1,061 11.4	1,042 11.5	1,157 11.3
Sales and Clerical	F = % =	1,773 25.6	2,087 26.3	2,162 23.3	2,017 22.3	2,347 23.0
Service	F = % =	1,457 21.0	1,813 22.9	2,019 21.7	2,020 22.4	1,833 17.9
Agricultural, Fishery, Forestry & Related	F = % =	93 1.3	92 1.2	136 1.5	90 1.0	128 1.3
Processing	F = % =	257 3.7	314 4.0	360 3.9	560 6.2	601 5.9
Machine Trade	F = % =	329 4.8	446 5.6	706 7.6	654 7.2	819 8.0
Benchwork	F = % =	688 9.9	678 8.6	636 6.9	528 5.9	622 6.1
Structural	F = % =	592 8.5	640 8.1	946 10.2	971 10.8	1,362 13.3
Miscellaneous	F = % =	960 13.6	958 12.1	1,259 13.6	1,147 12.7	1,352 13.2
Totals		100.0%	100.0%	100.0%	100.0%	100.0%

\*Percent of column.



Table 20

Frequency and Percentage of Occupational Preference, Age  
Sixty-Five and Over, 1978-1982

Occupational Category		1978	1979	1980	1981	1982
Professional/Technical Managerial	F =	39	24	23	30	40
	%* =	7.7	5.0	6.0	7.5	8.5
Sales and Clerical	F =	134	131	104	102	122
	% =	26.3	27.4	27.0	25.6	26.0
Service	F =	144	167	132	167	175
	% =	28.2	34.9	34.3	42.0	37.2
Agricultural, Fishery, Forestry & Related	F =	16	12	15	14	25
	% =	3.1	2.5	3.9	3.5	5.3
Processing	F =	12	8	9	5	7
	% =	2.4	1.7	2.3	0.2	1.5
Machine Trade	F =	29	16	16	13	17
	% =	5.7	3.3	4.2	3.3	3.6
Benchwork	F =	16	15	15	10	19
	% =	3.1	3.1	3.9	2.5	4.0
Structural	F =	43	41	32	20	28
	% =	8.4	8.6	8.3	5.0	6.0
Miscellaneous	F =	77	65	39	37	37
	% =	15.1	13.6	10.1	9.3	7.8
Totals		100.0%	100.0%	100.0%	100.0%	100.0%

\*Percent of column.

The heavy concentration of the sixty-five and over group in the two main occupational categories mentioned above, clerical and sales, and service, retains its domination throughout the five-year period. Clerical and sales occupations remained fairly constant, but service occupations increased from 28.2 percent (sixty-five and over) in the 1978 sample to 37.2 percent (sixty-five and over) in the 1982 sample.

Another interesting observation can be made by looking at the age breakdown of the individuals seeking employment in the professional/technical/managerial occupations (the occupational category most likely to be perceived as being the most prestigious and having the most responsibility). In each of the five yearly samples, the age group which clearly dominates the applications in this vocational category is the twenty-three through forty-four year old group. This domination increases in actual numbers and in percentage of applicants over the five-year period. The number and the percentage in the forty-five through sixty-four year old group also increases during the five-year period. However, the percentage of very young persons (age twenty-two and under) and of older persons (age sixty-five and over) decreases throughout the five-year period.

Null Hypothesis 6: There was no significant change in the proportion of persons seeking job-referral assistance through Job Service of Iowa between the years 1978 and 1982 with employment goals in the following occupational categories:

- Professional/Technical/Managerial Occupations
- Clerical and Sales Occupations
- Service Occupations
- Agricultural, Fishery, Forestry and Related Occupations
- Processing Occupations
- Machine Trade Occupations
- Benchwork Occupations
- Structural Occupations
- Miscellaneous Occupations

The null hypothesis was rejected on the basis of the TUSTAT Statistical Contingency tests which showed a significant change in the proportion of persons seeking jobs in the nine different occupational categories, between the year 1978 and the year 1982.

The Chi Square value for this test was 1287.35, a result significant at the .01 level, thus meeting the requirement set for this study. In fact, the Chi Square value, with 8 degrees of freedom was significant beyond the .001 level.

The actual numbers of persons seeking jobs in each of the occupational categories, in the years 1978 and 1982 is displayed in Table 21. This table illustrates the proportion of persons seeking employment in each of the nine occupational categories during the first quarter of the fiscal years 1978 and 1982.

The three largest occupational categories in both years were: sales and clerical occupations, service

Table 21

Frequency and Percentage Change 1978 Versus 1982,  
By Area of Occupational Choice

Occupational Category	1978	1982	Amount Change Between 1978 & 1982
Professional/ Technical/ Managerial	F = 5,293 %* = 9.1%	6,513 8.8%	1,220 -0.3%
Sales and Clerical	F = 13,174 % = 22.6%	15,355 20.8%	2,181 -1.8%
Service	F = 10,522 % = 18.1%	12,136 16.4%	1,614 -1.7%
Agricultural, Fishery, Forestry & Related	F = 963 % = 1.6%	1,196 1.6%	233 Same
Processing	F = 2,474 % = 4.2%	4,344 5.8%	1,870 +1.6%
Machine Trade	F = 3,304 % = 5.6%	6,876 9.3%	3,572 +3.7%
Benchwork	F = 5,119 % = 8.8%	5,043 6.8%	-76 -2.0%
Structural	F = 7,033 % = 12.1%	10,971 14.8%	3,938 +2.7%
Miscellaneous	F = 10,201 % = 17.5%	11,218 15.2%	1,017 -2.3%

occupations, and miscellaneous occupations. During the five-year period, all three of the largest categories dropped in terms of the percentage of the total number of applicants they represented.

The percentage of the total number of applicants represented by those applying for sales and clerical positions declined 1.8 percent, service occupations declined 1.7 percent, and miscellaneous occupations declined 2.3 percent. Also declining in terms of the percentage of the total they represented were benchwork occupations--2 percent, and professional/technical/managerial occupations--0.3 percent from the first quarter of 1978 to the first quarter of 1982.

Benchwork occupations not only declined in terms of percentage of the total number of applicants, but also in terms of raw numbers. There were seventy-six fewer applicants in this category during the first quarter of 1982 than there were in the first quarter of 1978. Benchwork occupations was the only category that had an actual decline in the number of applicants.

The strongest gain between the first quarter of 1978 and the first quarter of 1982 was registered by applicants for the machine trades occupations. The actual number of applicants for this category in 1978 was 3,304, which amounted to 5.6 percent of the total number of applicants for the period. During the first quarter of 1982 there

were 6,876 applicants for machine trades positions which represented 9.3 percent of the total number of applicants for the period.

Also gaining in percentage of the total were applicants for positions in the structural occupations. This category represented 12.1 percent of the total number of applicants during the first quarter of 1978. During the first quarter of 1982 the same category represented 14.8 percent of the total number of applicants.

Applicants for positions in the processing occupations represented 4.2 percent of the total during the first quarter of 1978. During the first quarter of 1982 applicants for processing positions represented 5.8 percent of the total.

While the number of applicants for positions within the agricultural, fishery, forestry and related occupations category increased between the first quarter of 1978 and the first quarter of 1982, the percentage of the total number of applicants which was represented by this category remained unchanged at 1.6 percent of the total.

#### Summary of Findings

Analysis of the data obtained from Job Service of Iowa demonstrated that there have indeed been significant changes in the demographic characteristics of applicants for job-referral assistance, during the years 1970 through

1982. However, the reasons for these changes may not be readily apparent due to the complex interaction of social, economic, political and geographic factors in the labor market. Individual behavior regarding job-seeking decisions is also influenced by a multitude of personal factors which may not be measured by a study, such as this one, which encompasses hundreds of thousands of persons. Nevertheless, it is possible to discern trends in the population of individuals who were seeking new employment opportunities in Iowa during the time frame specified by this study. These trends and possible factors responsible for them are discussed in detail in Chapter Five.

## CHAPTER FIVE

### Summary, Discussion, and Conclusions

#### Summary

##### The Problem

To be most effective, counselors, educators, placement specialists and other professionals who assist persons preparing for employment need to be familiar with the characteristics of the labor market and those seeking to enter it. In addition, secondary schools, colleges and universities, rehabilitation facilities, public and private employment agencies, vocational training centers, and federal, state and local manpower programs, a multitude of "re-entry" programs and countless other organizations all prepare individuals for employment; all of them may utilize labor market information to develop and implement their programs.

The purpose of this study was to examine changing characteristics of individuals seeking new employment opportunities in the state of Iowa during the past decade. For example, are more women entering the workforce than there were a decade ago? Are women today more often seeking non-traditional positions than they were in the past,



and, if so, what are they? Are older workers more often postponing retirement and staying in the labor force? How do the occupational preferences of members of minority groups compare with those of the White majority in Iowa? Are more persons seeking new employment opportunities even when they are employed and not forced to secure new positions? Are there more individuals searching for employment now than there were five years ago? By analyzing characteristics of the job-seeking population in the state of Iowa, it may be possible to discern significant changes which have occurred in the state's potential workforce.

Since Job Service of Iowa is a public agency, mandated by law to assist Iowans seeking employment, and the largest single employment service in the state, it was decided to utilize its in-house statistics for the purposes of this study. Job Service of Iowa began to computerize records of job applicants in 1970; consequently, that year became the data base date for this project. Consequently, this study contains selected data from 1970 through 1982, the most recent year from which statistics were available.

### Design and Methodology

The sample for this study included all persons who applied for employment assistance at a Job Service office in Iowa during the first quarter of the fiscal years, 1970, 1975, 1978, 1979, 1980, 1981 and 1982. Between 1970 and 1977, the only data computerized from individual application

forms were the age and sex of each applicant.

By 1978, Job Service began to computerize variables such as race, work status at the time of application for services and occupational preference, thus, data pertaining to these variables are included in this study only for the period 1978 through 1982.

For 1981 and 1982 Job Service no longer computerized data for work status (consequently that variable may be studied only from the period of 1978 through 1980).

Data for the study were collected with the assistance of Job Service of Iowa's Research and Analysis Department. Information was gathered from quarterly reports which are recorded on microfiche to be utilized by this department. These reports compiled information gathered from form 511A, a tool used by Job Service interviewers to record standardized information during the applicant's interview for employment services.

A set of six null hypotheses was generated to test changes in applicants pertaining to variables of age, sex, race, work status at the time of application, and occupational choice.

The TUSTAT Statistical Contingency Test, a variation of the basic Chi Square test for significance, was chosen to test the null hypotheses. This statistic was used because of its ability to analyze several variables at the same time. In addition to the test for significance,

percent and frequency changes over time were calculated by the researcher.

### Findings

In general, the study showed a decline in the percentage of individuals who were seeking positions within the clerical and sales occupations, the service occupations, the benchwork occupations, and the occupational category labeled miscellaneous occupations. The machine trade occupations, the structural occupations and the processing occupations showed gains in the percentage of individuals who were seeking positions within these categories. While the actual number of applicants for positions within the agricultural, fishery, forestry and related occupations category increased, the percentage of the total which sought positions within this category remained unchanged.

The age group labeled twenty-two years of age or less decreased in actual numbers and in percentage of applicants who fell into this group. This decline was steady and quite severe from 1979 through 1982. Individuals in the age category labeled twenty-three through forty-four years showed a strong gain during the same period.

The age group from forty-five years through sixty-four years contained 11.5 percent of the total applicant population in the first quarter of 1978. During the first quarter of 1982, 13.5 percent of the applicants fell into this age category. The age category labeled sixty-five

years or over contained fewer than 1 percent of the total applicants throughout the five-year period 1978-1982.

Individuals aged sixty-five and over were shown to be heavily concentrated in the occupational preference categories of clerical and sales occupations and service occupations. The percentage of applicants in this age category applying for positions within the service occupations group increased significantly during the five-year period.

Persons in the twenty-three through forty-four year old group dominated the applicants for positions in the professional/technical/managerial occupations. Furthermore, this domination increased in actual numbers and in percentage of total applicants over the five-year period.

Iowa's workforce, like Iowa's population, is largely White. The second largest racial/ethnic group in Iowa's workforce is the Black population. The real number of Black applicants and the percentage of total applicants who were Black declined during the five-year period 1978 through 1982.

The number and percentage of Black applicants for professional/technical/managerial occupations decreased during the five-year period, while the number and percentage of White applicants in this category increased. Whites were shown to have increased their domination of the applications within machine trade occupations, structural occupations and to a lesser degree the category

labeled miscellaneous occupations.

Interestingly, although they represent only a small minority, the most obvious gains were made by the racial/ethnic category labeled as "others" (such as Southeast Asian refugees and Pacific Islanders). This group made substantial gains in the processing occupations, the agricultural, fishery, forestry and related occupations, and in the benchwork occupations.

Job Service of Iowa kept records of the work status of applicants for the years 1978, 1979 and 1980. During this time, the number and percentage of the applicants who were unemployed at the time of application rose steadily and rather dramatically.

Three occupational choice categories contained the highest percentage of applicants who were fully employed at the time of application. These categories were: the professional/technical/managerial occupations, the machine trade occupations, and the clerical and sales occupations. In each category, the actual number and the percent of applicants who were fully employed at the time of application reached a peak in 1979 but dropped off sharply in the 1980 sample.

During the five-year period 1978-1982, the percentage of applicants for services who were male rose in eight of the nine occupational categories. Only the percentage of males in the structural occupations did not rise. It

remained at 96 percent of the total.

By combining the totals of the clerical and sales occupations with the totals for the service occupations, one locates 68.5 percent of all females seeking job-referral assistance during the first quarter of 1982 in these categories. This is a substantial increase over the same combined percentage found in the sample provided for the first quarter of 1978.

The percentage of males seeking positions within the miscellaneous occupations category decreased steadily throughout the five-year period 1978 through 1982. However, by combining the totals found in the miscellaneous occupations with the totals for the structural occupations it was still possible to account for over 45 percent of all male applicants for the first quarter of 1982.

The percentage of males and females who were seeking positions within the professional/technical/managerial occupations were quite similar. These percentages remained quite constant through the five-year period 1978 through 1982 at approximately 8 to 9 percent of the total applicants for each sex.

### Discussion

From the findings of this research there have been significant changes in the composition of Iowa's workforce during the past few years. However, the direction of the

changes, the real significance of the changes, and to some extent the meaning and implications of the changes is left for debate.

Women unquestionably play a greater role in Iowa's present workforce than they did during the last decade. During the first quarter of fiscal year 1982, 38.8 percent of the applicants seeking assistance through Job Service of Iowa were women. However, this percentage is down considerably from a high of 49.1 percent in 1978. While the actual number of female applicants seeking assistance from Job Service offices in Iowa has increased markedly since 1970, the numbers have dropped steadily and rather dramatically from a high of 36,187 during the first quarter of 1979 to 28,650 during the first quarter of 1982.

Since professional literature contains evidence of dramatic changes in women's roles, a noticeable move away from women's traditional jobs might have been expected. Positions that have traditionally been dominated by males may have attracted more women during the period of this study. Interestingly, if one combines two occupational choice categories that have traditionally been chosen by women, i.e., the clerical and sales occupations and the service occupations, it is discovered that the percentage of women applying for positions in these two areas during the first quarter of 1982 was 68.5 percent compared to 64.7 percent for 1978.

During this same five-year period, 1978 through 1982, there has been no significant change in the actual number or the percent of women seeking positions within the professional/technical/managerial occupations. Although the percentage of women applying for positions in the machine trade occupations and the structural occupations have risen slightly during the five-year period, the percentages dropped significantly in the benchwork occupations and the category labeled miscellaneous occupations.

The meaning of the changes outlined above are not altogether clear. Is Iowa out of step with the rest of the country in terms of the changing roles of women? Has the declining economy put a damper on the enthusiasm for women changing or upgrading their positions? Are women choosing to go back into the more traditional roles? Or, have the economic difficulties of the last few years distorted the overall employment picture so that we are unable to see clear-cut trends?

While Job Service of Iowa computerized records for only three years concerning the work status of applicants at the time of their application for services, these three years do show what at least appears to be a trend. The actual number and the percentage of persons who were unemployed at the time of application rose steadily and dramatically during the first quarter of this three-year period, 1978-1980.



At the same time, the percentage of individuals who were fully employed at the time of application for services rose quite dramatically between the first quarter of 1978 and the first quarter of 1979. However, the drop in percentage between the first quarter of 1979 and the first quarter of 1980 was even more dramatic.

Again, the findings of the research leave certain questions unanswered. The professional literature in the career guidance area devotes a great deal of space to discussion of (voluntary) career change. One might reasonably expect individuals who were considering (voluntary) career change to seek assistance and the services of an agency such as Job Service of Iowa during the time while he/she was still fully employed. Yet, in the abbreviated sample available from Job Service of Iowa, it would appear that a drop in the number and in the percentage of individuals seeking assistance while they were employed was beginning between the first quarter of 1979 and the first quarter of 1980. Has this trend continued? Is it really a trend? Has the economy curtailed voluntary career change for the present? Or, do individuals seeking to voluntarily change careers do so outside the auspices of governmental agencies such as Job Service of Iowa?

It is interesting to note that throughout the three-year period, 1978, 1979 and 1980, applicants for three occupational choice categories continuously had the

highest percentage of individuals who were fully employed at the time of application for services. These categories were: the professional/technical/managerial occupations, the machine trade occupations, and the clerical and sales occupations. In general, these are the categories in which it might be expected that the most educated and most skilled individuals would be found.

From this information, it might be concluded that in Iowa the tendency toward voluntary career change is found primarily among the best educated and the most highly skilled. However, within these three occupational categories, over the three-year period 1978, 1979 and 1980, there was a rise in the percentage of individuals seeking assistance while fully employed, followed by a rather dramatic decline. This factor increases speculation that a poor economy and high unemployment rate have great impact on voluntary career change.

Much of the present vocational guidance literature devotes much space to discussion about new roles for minority members within the national workforce. There is a white domination of the workforce in Iowa. In fact, the domination of the workforce by Whites has actually increased during the period from the first quarter of 1978 through the first quarter of 1982. Blacks are the largest racial minority group in Iowa; however, the percentage of applicants for services from Job Service of Iowa who were

Black actually decreased during the five-year period of this study.

While only a very small number of individuals within Iowa's workforce were placed in the category labeled as "others," this group showed strong increases in the number and percentage of applicants seeking positions in the processing occupations, agricultural, fishery, forestry and related occupations, and the benchwork occupations. Possibly these changes were largely due to the influx of individuals brought into Iowa from Southeast Asia during the late 1970's and early 1980's. In 1975, the governor of Iowa formed a task force for Indochinese resettlement which later developed into the Iowa Refugee Service Center, a federally funded agency which resettles and aids Indochinese refugees in Iowa under the direction of Job Service of Iowa. As a result of these efforts, and those of some private agencies, 6,800 Indochinese refugees had been settled in Iowa by 1980.<sup>1</sup> The ramifications of such a program are obvious in terms of its effect upon the number of racial/ethnic minority group members in the state of Iowa.

From the data, there does not seem to be evidence of upwardly mobile minority members (especially Blacks) in Iowa. It isn't clear whether this finding is a reflection

---

<sup>1</sup>Job Service of Iowa, "Annual Report, Fiscal Year 1980," p. 7.

of national trends or the very strong domination of Whites within the general population of Iowa. The only discernible trend within the small group of racial minorities in Iowa is the significant increase in the number of "other" applicants for services at Job Service offices.

Concerning the variable of age, the most significant finding is that no large increase had taken place in the percentage of individuals seeking assistance from Job Service of Iowa who were sixty-five years of age or older. In fact, the percentage of applicants within this age category remained under 1 percent of the total during the first quarter of 1975 and throughout the first quarter samples for the last five-year period of this study, 1978-1982.

Since 1979, there was a steady decline, both in actual numbers and in the percentage, of individuals age twenty-two and under applying for assistance from Job Service offices in Iowa. At the same time, there was a steady increase in the number and percentage of individuals age twenty-three through forty-four. The most dramatic turnaround in these two groups came between 1979 and 1980. During this short period, the age twenty-two and under group declined by over 6,000 applicants, while the age twenty-three through forty-four age group gained over 12,000 applicants.

It seems reasonable to assume that some of the rather

dramatic changes in the age breakdown of applicants can be attributed to a declining economy and perhaps a tendency for young people to stay in school longer due to a shortage of jobs and a tightening economic outlook.

At the same time, it also seems reasonable to speculate that the major turnaround taking place between 1979 and 1980 may be in part attributed to the "baby boom" generation coming of age. Individuals crossing the line from the twenty-two and under group into the twenty-three through forty-four group between the first quarter of 1979 and the first quarter of 1980 would have been born sometime in the 1956 through 1957 era. Census figures for 1970 and 1980 show a decline of 141,003 or 13 percent in the portion of Iowa's population that was age twenty and under.<sup>1</sup>

Whatever the reasons for the changes in age composition of the Job Service applicants, most job seekers were in the middle of the age spectrum, age twenty-three through sixty-four, rather than on the extremes, i.e., twenty-two and under or sixty-five and over. The majority of these applicants was in the twenty-three through forty-four year old group. However, if a declining birth rate is the important reason that fewer persons appear in these categories, then more Job Service applicants will eventually be in the age group of forty-five through sixty-five.

---

<sup>1</sup>Job Service of Iowa, "Annual Planning Information, Fiscal Year 1983," p. 7.

During the first quarter of 1978 and the first quarter of 1982, individuals sixty-five years of age or older sought positions in either the clerical and sales occupations or the service occupations. The majority of the growth for this age group was seen within the service occupations.

The age category forty-five through sixty-four appears to be the most occupationally stable group, most individuals settle into a position and retain it until retirement. This age group, like the age sixty-five and over group, shows the largest portion of applications for positions in the clerical and sales occupations and the service occupations. From this data, one may conclude that perhaps these two areas generally have more turnover than other occupational categories.

However, during the 1978 through 1982 period the percentage of persons age forty-five through sixty-four applying for positions in these two areas dropped while the percentage of applications coming from persons in this age group for positions in several other occupational categories increased. Perhaps the hard economic times caused this to happen. A tightening job market may cause increased stability in a number of occupational areas.

Iowa's workforce appears to be getting older. The state's younger workers seem to apply primarily for positions within the sales and clerical occupations, the

service occupations, and the category labeled miscellaneous occupations. The movement during the five-year period within that age twenty-two and under group seemed to be toward the service occupations, perhaps because of the perceived ease of obtaining such positions or perhaps due to federal and state work programs which often are directed toward a number of jobs which would be placed in this category.

If the dramatic age change observed in Iowa's workforce between the 1979 sample and the 1980 sample is an indication of the future, then professionals who work in vocational guidance, counseling, education and placement in Iowa must be aware of its implications. For example, the workers who entered the twenty-three through forty-four year old category in 1980 will be in this category until the year 2001. Professionals will be working with the special needs of this "mid-life" group for quite some time.

### Conclusions

Six general conclusions may be drawn from the findings of this study. These are:

1. The proportion of male versus female total applicants changed significantly during the period from 1970 through 1982.

2. The proportion of male versus female applicants changed significantly within each of the nine occupational

preference categories during the years 1978 through 1982.

3. The proportion of applicants who were employed full-time, part-time or unemployed at the time of application changed significantly within each of the nine occupational preference categories, during the years 1978 through 1980.

4. The proportion of White, Black, Spanish-speaking, American Indian and "other" minority group members changed significantly in eight of the nine occupational preference categories (the exception was agricultural, fishery, forestry and related occupations) during the years 1978 through 1982.

5. The proportion of persons age twenty-two or under, twenty-three through forty-four, forty-five through sixty-four, and sixty-five or over changed significantly in each of the nine occupational preference categories during the years 1978 through 1982.

6. The number of persons seeking assistance through Job Service of Iowa changed significantly between 1978 and 1982.

#### Implications and Limitations of Study

Analysis of the data contained in this study evidenced several significant changes in the demographic characteristics of persons seeking job-referral assistance through Job Service of Iowa during the 1970's and early 1980's.



In addition, it was possible to discern several trends which became more pronounced as the 1970's progressed, only to decline by 1982. For example, in 1979 there were more women applying for jobs, and more women seeking non-traditional jobs than at any other time in the study. In that same year women comprised 48.9 percent of all applicants for services, an increase from 38.3 percent in 1970. However, by 1982 the proportion of female applicants had declined to 38.8 percent, a figure almost identical to that of 1970. The same type of significant increase followed by a gradual decline, almost to the earliest figures in the study, was evidenced in the proportion of Blacks and full-time employed persons seeking new jobs.

The reasons for the increase in the number of applicants in these groups and then their decline may not be shown by data from this study, which examined the characteristics of hundreds of thousands in group form. For example, the data yielded frequencies and percentages of variables such as sex, age and race. However, due to the confidential nature of Job Service's record-keeping system and the manner in which the statistics are recorded, it was not possible to study combinations of variables such as Black males age sixty-five and over and unemployed at the time of application for services.

Such an individualized study might shed some light on the reasons responsible for changes in the number and

proportion of persons in various occupational preference categories, and reasons for seeking new employment opportunities. Obviously, a smaller population sample would be necessary to discover the effects of personal, social, economic and geographic factors which may also play a significant role in each individual's decision to enter the job market and occupational category.

Nevertheless, there are many important implications from this study for counselors, educators, job placement specialists and all other professionals who serve a current or future job-seeking clientele. Since it has been demonstrated that the demographic characteristics and the occupational preferences of job-seekers may change significantly over a short period of time, it is imperative that helping professionals have an up-to-date working knowledge of the local labor market and labor pool. It is not enough to "keep current" with the professional literature on the subject of counseling/teaching/placing potential job-seekers, since such literature may pertain to a geographic area radically different from the one in which the professional is working. Indeed, each region of the country, each state and each city is unique in its social, cultural, economic, environmental and geographic circumstances; and each of these factors may have a significant impact upon the persons seeking employment.

## BIBLIOGRAPHY

## BIBLIOGRAPHY

### Special Reports

Job Service of Iowa. "1970 Annual Manpower Planning Report." Des Moines: State of Iowa, 1970.

\_\_\_\_\_. "1980 Annual Planning Information." Des Moines: State of Iowa, March 1979.

\_\_\_\_\_. "Annual Iowa Manpower Planning Report, Fiscal Year 1972." Des Moines: State of Iowa, June 1971.

\_\_\_\_\_. "Annual Manpower Planning Report, Fiscal Year 1974." Des Moines: State of Iowa, February 1973.

\_\_\_\_\_. "Annual Manpower Planning Report, Fiscal Year 1975." Des Moines: State of Iowa, February 1974.

\_\_\_\_\_. "Annual Manpower Planning Report, Fiscal Year 1976." Des Moines: State of Iowa, February 1975.

\_\_\_\_\_. "Annual Planning Information, Fiscal Year 1979." Des Moines: State of Iowa, February 1978.

\_\_\_\_\_. "Annual Planning Information, Fiscal Year 1982." Des Moines: State of Iowa, June 1981.

\_\_\_\_\_. "Annual Planning Information, Fiscal Year 1983." Des Moines: State of Iowa, June 1982.

\_\_\_\_\_. "Annual Planning Report, Fiscal Year 1977." Des Moines: State of Iowa, May 1976.

\_\_\_\_\_. "Annual Planning Report, Fiscal Year 1978." Des Moines: State of Iowa, March 1977.

\_\_\_\_\_. "Annual Report, Fiscal Year 1980." Des Moines: State of Iowa, 1980.

\_\_\_\_\_. "Labor Market Information for Special Worker Groups." Des Moines: State of Iowa, October 1981.

\_\_\_\_\_. "Planning Information for Vocational Education." Des Moines: State of Iowa, April 1981.

United States Bureau of the Census. 1970 Report.  
Washington, D.C.: U.S. Government Printing Office,  
1970.

### Books

Baer, Max F., and Edward C. Roeber. Occupational Information. Chicago, IL: Science Research Associates, 1958.

Blau, Peter M., and Otis Dudley Duncan. The American Occupational Structure. New York: John Wiley & Sons, Inc., 1967.

Bolles, Richard Nelson. The Three Boxes of Life. Berkeley, CA: Ten Speed Press, 1978.

Crites, J. O. Vocational Psychology. New York: McGraw Hill Book Co., 1969.

Drucker, Peter F. The Age of Discontinuity. New York: Harper and Row, 1968.

Engle, Paul, and John M. Zielinski. Portrait of Iowa. Minneapolis, MN: Adams Press, 1974.

Herr, Edwin L., and Stanley H. Cramer. Career Guidance Through the Life Span. Boston: Little, Brown and Company, 1979.

Hoppock, Robert. Occupational Information. New York: McGraw-Hill Book Company, 1976.

Parsons, Frank. Choosing a Vocation. Boston: Houghton Mifflin, 1909.

Peters, Herman J., and James C. Hansen, eds. Vocational Guidance and Career Development. New York: Macmillan Company, 1971.

Slocum, Walter. Occupational Careers. Chicago: Aldine Publishing Company, 1966.

Thoroman, E. C. The Vocational Counseling of Adults and Young Adults. Boston: Houghton Mifflin Company, 1968.

### Periodicals

- Armstrong, Janet C. "Decision Behavior and Outcome of Midlife Career Changers." The Vocational Guidance Quarterly, 29, No. 3 (1981), 205-11.
- Brim, Orville G., Jr. "Theories of the Male Mid-Life Crisis." Counseling Psychologist, 6, No. 1 (1976), 1-9.
- Brown, Duane. "Emerging Models of Career Development for Persons at Midlife." The Vocational Guidance Quarterly, 29, No. 4 (1981), 332-40.
- Clopton, W. "Personality and Career Change." Industrial Gerontology, Spring 1973, p. 11.
- Drucker, Peter F. "Worker and Work in the Metropolis." Journal of the American Academy of Arts & Sciences, 97 No. 4 (1968), 1234-62.
- Entine, Alan D. "Counseling for Mid-Life and Beyond." The Vocational Guidance Quarterly, June, 1977, pp. 332-36.
- Gross, Edward. "A Sociological Approach to Work Life." Personnel and Guidance Journal, 45, No. 5 (1967), 416-23.
- Herr, Edwin L. "The Roots of Career Education." College Board Review, 105 (Fall 1977), 6-17.
- Holland, John. "A Theory of Vocational Choice." Counseling Psychology, 6, No. 1 (1959), 35-45.
- Krausz, Moshe. "Policies of Organizational Choice at Different Vocational Life Stages." The Vocational Guidance Quarterly, 29, No. 4 (1981), 340-47.
- Levinson, Daniel J. "Periods in the Adult Development of Man: Ages 18 to 45." Counseling Psychologist, 6, No. 1 (1976), 47-59.
- LoCasio, R. "Continuity and Discontinuity in Vocational Development Theory." Personnel and Guidance Journal, 46 (1968), 844-85.
- MacMichael, D. C. "Work Ethics: Collision in the Classroom." Manpower, 6 (January 1974), 15-20.
- Maltzer, H. "Attitudes of Workers Before and After Age 40." Geriatrics, 20, No. 5 (1965), 425-32.

- Miles, Leroy. "Midlife Career Change for Blacks: Problems and Issues." The Vocational Guidance Quarterly, 30, No. 1 (1981), 5-13.
- Parkinson, Travers. "Career Counseling Revisited." The Vocational Guidance Quarterly, 28, No. 2 (1979), 121-28.
- Perfetti, Lawrence J., and William C. Bingham. "Unemployment and Self-Esteem in Metal Refinery Workers." The Vocational Guidance Quarterly, 31, No. 3 (1983), 195-200.
- Sampler, Joseph. "Psycho-Social Aspects of Work: A Critique of Occupational Information." Personnel and Guidance Journal, 34, No. 6 (1961), 458-65.
- Sears, Susan. "A Definition of Career Guidance Terms: A National Vocational Guidance Association Perspective." The Vocational Guidance Quarterly, 30, No. 3 (1982), 137-43.
- Smith, E. J. "Profile of the Black Individual in Vocational Literature." Journal of Vocational Behavior, 6 (1975), 55.
- Super, Donald E. "The Natural History of a Study of Lives and of Vocations." Perspectives on Education, 2 (1969), 13-22.
- \_\_\_\_\_. "Vocational Adjustment: Implementing a Self-Concept." Occupations, 30 (1951), 88-92.
- Thomas, L. Eugene. "Causes of Mid-Life Change from High Status Careers." The Vocational Guidance Quarterly, 27, No. 3 (1979), 202-3.
- \_\_\_\_\_. "Why Study Mid-Life Career Change?" The Vocational Guidance Quarterly, 24, No. 1 (1975), 37-40.
- Turner, Robert, and William Whitaker. "The Impact of Mass Layoffs on Older Workers." Industrial Gerontology, 16 (Winter 1973), 14-21.
- Waldman, Elizabeth, and Kathryn R. Gover. "Children of Women in the Work Force." Monthly Labor Review, 94 (June 1971), 20.
- Waldman, Elizabeth, and Anne M. Young. "Marital and Family Characteristics of Workers." Monthly Labor Review, 94 (June 1971), 49.

- Waters, Elinor, and Jane Goodman. "Career Counseling for Adults: Why, When, Where, How?" The Vocational Guidance Quarterly, 25, No. 4 (1977), 337-43.
- Wiggins, James D. "Holland's Theory and Retired Teachers." The Vocational Guidance Quarterly, 30, No. 3 (1982), 236-42.
- Wilson, Jean, William J. Wirkel and Harold Rose. "A Comparison of Nontraditional and Traditional Career Women." The Vocational Guidance Quarterly, 30, No. 6 (1982), 109-17.

#### Other Sources

- Axelbank, Rashelle G. Employment of the Middle-Aged Worker. New York: The National Council on Aging, 1969.
- Herr, Edwin L. "Guidance and Counseling, Vocational Education, Research and Development." Paper prepared for the National Research Council's Committee on Vocational Education, Research and Development, Washington, D.C., March, 1975.
- Pascal, A. H., et al. "An Evaluation of Policy Related Research on Programs for Mid-Life Career Redirection: Vol. 1, Major Findings." Presented to National Science Foundation, Washington, D.C., 1975.
- Stephens, W. R. "Social Reform and the Origins of Vocational Guidance." Washington, D.C.: National Guidance Association, 1970.
- United States Department of Health, Education and Welfare, Office for Civil Rights. Racial and Ethnic Enrollment Data from Institutions of Higher Education. Washington, D.C.: U.S. Government Printing Office, 1973.
- United States Department of Labor. Dictionary of Occupational Titles. Washington, D.C.: U.S. Government Printing Office, 1977.
- \_\_\_\_\_. Occupational Outlook Handbook. Washington, DC: U.S. Government Printing Office, 1976.



APPENDIX

## Form 511A

## 14. WORK HISTORY - BEGIN WITH YOUR MOST RECENT OR IMPORTANT JOB, INCLUDING MILITARY SERVICE

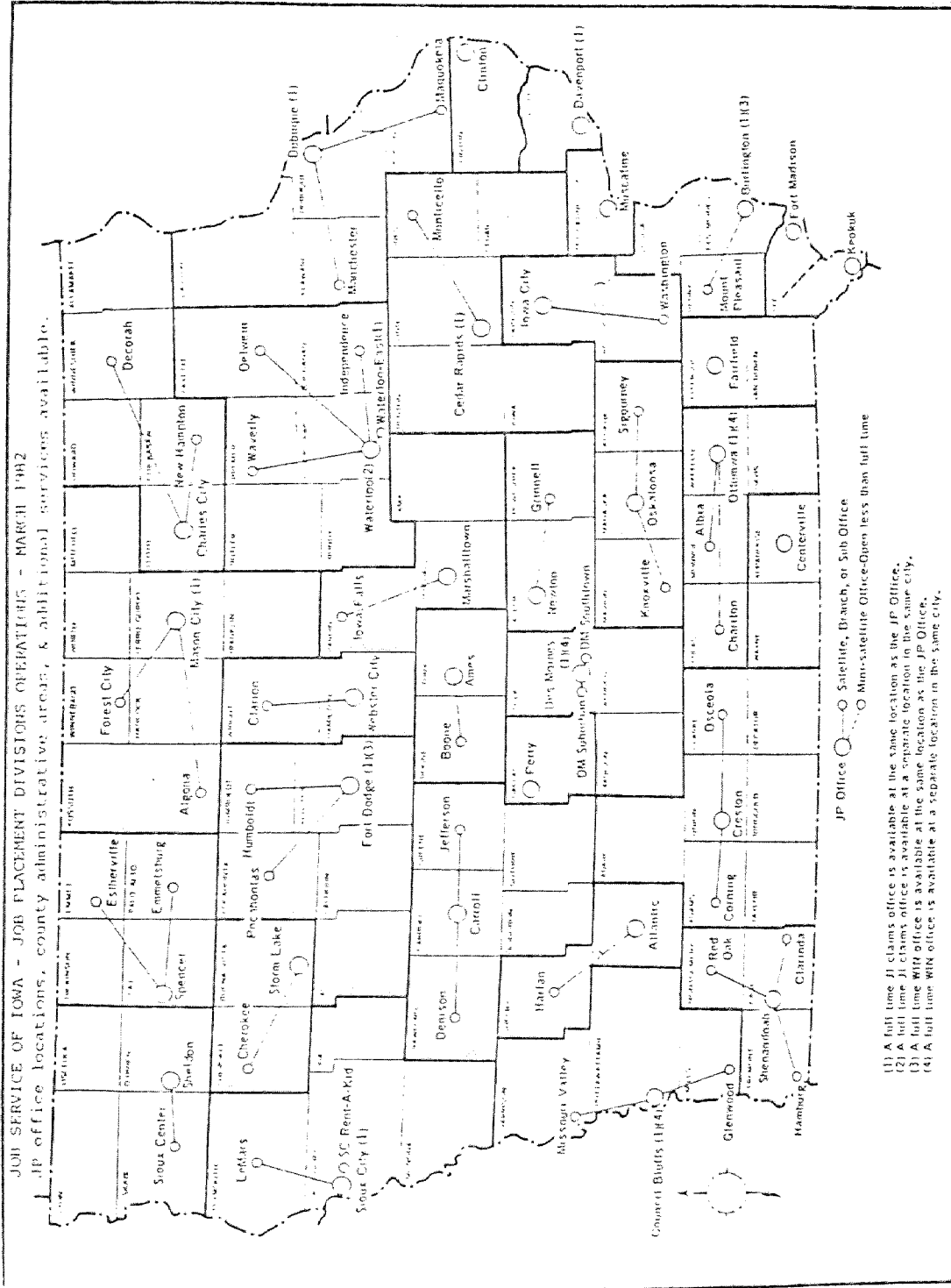
EMPLOYER NAME				OFFICE USE		DESCRIBE JOB DUTIES, INCLUDING TOOLS OR MACHINES USED	
YOUR JOB TITLE				MONTH	YEAR	STARTED	
LAST SALARY		PAID BY		REASON FOR LEAVING		ENDED	
DOLLARS	CENTS	1 HOUR 2 DAY 3 WEEK	4 MONTH 5 YEAR 6 OTHER	1 LAYOFF 2 QUIT 3 FIRED	4 JOB ENDED 5 OTHER		
EMPLOYER NAME				OFFICE USE		DESCRIBE JOB DUTIES, INCLUDING TOOLS OR MACHINES USED	
YOUR JOB TITLE				MONTH	YEAR	STARTED	
LAST SALARY		PAID BY		REASON FOR LEAVING		ENDED	
DOLLARS	CENTS	1 HOUR 2 DAY 3 WEEK	4 MONTH 5 YEAR 6 OTHER	1 LAYOFF 2 QUIT 3 FIRED	4 JOB ENDED 5 OTHER		
EMPLOYER NAME				OFFICE USE		DESCRIBE JOB DUTIES, INCLUDING TOOLS OR MACHINES USED	
YOUR JOB TITLE				MONTH	YEAR	STARTED	
LAST SALARY		PAID BY		REASON FOR LEAVING		ENDED	
DOLLARS	CENTS	1 HOUR 2 DAY 3 WEEK	4 MONTH 5 YEAR 6 OTHER	1 LAYOFF 2 QUIT 3 FIRED	4 JOB ENDED 5 OTHER		

INTERVIEWER'S COMMENTS

SOCIAL SECURITY NUMBER		MATCHING REGISTRATION		11. SUMMER YOUTH A		12. CC		13. OV		14. PS		15. OCCUPATIONAL TITLE		16. NO. 2. OCCUPATIONAL CODE			
		FEDERAL MATCH		YES		NO		Z		BO		CA		UP			
17. NAME (PRINT LAST - LAST MIDDLE INITIAL)		18. ADDRESS		19. CITY		20. STATE (2-DIGIT CODE)		21. COUNTY		22. COUNTY CODE		23. RACE ETHNIC		24. MIN. FAMILY SIZE		25. HOOP DS	
												26. 1-HANDICAPPED 2-OTHER VET. 3-OTHER VET. 4-OTHER VET.		27. HOOP DS		28. REGISTRATION DATE	
																29. MONTH	
																30. DAY	
																31. YEAR	
32. TELEPHONE NUMBER		33. DATE OF BIRTH		34. CAN YOU PASS A PHYSICAL?		35. VETERAN, OTHER ELIGIBLE		36. FEDERAL USE		37. FOOD STAMP WORK REGISTRATION RECEIVED		38. REGISTRATION RECD.		39. 1-REGISTRATION RECD.		40. 2-REGISTRATION RECD.	
		33. MONTH		34. YES		35. NOT 1-NON VETERAN 2-SPECIAL VETERAN 3-OTHER VETERAN 4-OTHER VETERAN 5-OTHER VETERAN 6-OTHER VETERAN		36. 1-REGISTRATION RECD.		37. 1-REGISTRATION RECD.		38. 1-REGISTRATION RECD.		39. 1-REGISTRATION RECD.		40. 2-REGISTRATION RECD.	
		33. DAY		34. NO		35. 1-REGISTRATION RECD.		36. 1-REGISTRATION RECD.		37. 1-REGISTRATION RECD.		38. 1-REGISTRATION RECD.		39. 1-REGISTRATION RECD.		40. 2-REGISTRATION RECD.	
		33. YEAR		34. YES		35. 1-REGISTRATION RECD.		36. 1-REGISTRATION RECD.		37. 1-REGISTRATION RECD.		38. 1-REGISTRATION RECD.		39. 1-REGISTRATION RECD.		40. 2-REGISTRATION RECD.	
41. EMPLOYER'S NAME		42. EMPLOYER'S ADDRESS		43. EMPLOYER'S CITY		44. EMPLOYER'S STATE		45. EMPLOYER'S COUNTY		46. EMPLOYER'S COUNTY CODE		47. EMPLOYER'S RACE ETHNIC		48. EMPLOYER'S MIN. FAMILY SIZE		49. EMPLOYER'S HOOP DS	
50. SALARY		51. PAID BY		52. REASON FOR LEAVING		53. JOB ENDED		54. OTHER		55. LAYOFF		56. QUIT		57. FIRED		58. OTHER	
DOLLARS	CENTS	1 HOUR 2 DAY 3 WEEK	4 MONTH 5 YEAR 6 OTHER	1 LAYOFF 2 QUIT 3 FIRED	4 JOB ENDED 5 OTHER												

YES 511A (10-81)

IMPLICATION CARD



Source: Job Service of Iowa, Annual Planning Information, Fiscal Year, 1983,"  
 (Des Moines: State of Iowa, June 1982).

## Composition of Iowa's Population, 1970 and 1982

	1970	1982	Change	
			Number	Percent
Total	2,822,991	2,928,662	105,671	3.7
<u>Sex</u>				
Male	1,371,278	1,424,855	53,577	3.9
Female	1,451,713	1,503,807	52,094	3.6
<u>Race</u>				
White	2,783,454	2,877,165	93,711	3.4
Nonwhite	39,537	51,497	11,960	30.3
<u>Age</u>				
Under 20	1,082,598	941,595	-141,003	-13.0
20-24	200,702	237,090	36,388	18.1
25-44	610,856	791,869	181,013	29.6
45 and Over	928,835	958,109	29,274	3.2

Source: Job Service of Iowa, "Annual Planning Information, 1982," (Des Moines: State of Iowa, June 1981).

Iowa's Top Ten Occupations  
1976-1985

Occupation	Average Annual Job Openings	
	Total	Due to Growth
Total Job Openings		
Sales Workers, General	3,186	807
Secretaries, except Medical and Legal	2,911	1,285
Miscellaneous Clerical Workers	2,327	1,439
Elementary School Teachers	1,915	730
Janitors and Sextons	1,796	218
Farmers (Owners & Tenants)	1,670	-3,474*
Nurse Aides, Orderlies	1,650	643
Bookkeepers	1,381	252
Building Interior Cleaners	1,196	321
Cashiers	1,092	459
All Occupations	68,383	17,089

Occupation	Fast Growing Occupations	
	1976 Employment	Annual Percent Growth
Dental Hygienists	204	9.4
Secretaries, Medical	520	7.2
Miscellaneous Clerical Workers	15,195	6.9
Teachers Aides, except Monitors	2,464	6.3
Flight Engineers	4	6.2
Lodging Quarters Cleaners, except Private	2,366	6.1
Data Processing Machine Repairers	332	5.9
Boilermakers	141	5.7
Mechanical Engineering Technicians	86	5.6
Farm Managers	1,041	5.4
All Occupations	1,269,558	1.3

\*Negative growth openings indicate an occupation with declining employment.

Source: Job Service of Iowa, "Annual Planning Information, 1980," (Des Moines: State of Iowa, March 1979), p. 21.

Iowa Occupational Employment Trends  
1970-1985

Occupation	1970	1976	1985	Percent Change	
				1970-1976	1976-1985
Professional, Technical & Kindred Managers, Officials, and Proprietors	141,171	169,402	197,929	20.0	16.8
Sales Workers	111,232	142,505	166,473	28.1	16.8
Clerical Workers	65,208	70,242	80,322	7.7	14.4
Crafts & Kindred	152,215	178,619	221,432	17.3	24.0
Operatives	128,126	151,212	172,601	18.0	14.1
Service Workers	163,488	179,319	210,716	9.7	17.5
Nonfarm Laborers	156,514	176,360	210,305	12.7	19.2
All Nonfarm	51,093	54,296	59,235	6.3	9.1
Farmers & Farm Workers	969,947	1,121,955	1,319,013	15.7	17.6
	198,585	147,603	104,349	-25.7	-29.3
All Occupations	1,167,632	1,269,558	1,423,362	8.7	12.1

Source: Job Service of Iowa, "Annual Planning Information, Fiscal Year 1983," State of Iowa, June, 1982, p. 20.